



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM ATAL009591-R3  
 [TESTLAB]ATAL-LABS  
 [ISSUEDATE]23 NOV, 2022  
 [MANUFAC]WILLIAMS OUTDOOR  
 [OTHER]H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT]VF1-L20-750-MF-MTG-CLR-OPT-DIM-UNV  
 [LUMINAIRE]VOLTAIRE SMALL ARCHITECTURAL FLOOD LIGHT WITH MEDIUM  
 [MORE]FLOOD MOLDED REFRACTIVE CLEAR ACRYLIC LENS AND A CLEAR GLASS  
 [MORE]LENS.  
 [LAMPCAT]X16-LUXEON TX 5000K LEDS  
 [LAMP](16) LUXEON TX 5000K LEDS  
 [BALLASTCAT]X1-EUC-018S035DSP  
 [BALLAST](1) INVENTRONICS ELECTRONIC DRIVER  
 [ \_SEARCH\_SOURCE] LED  
 [ \_SEARCH\_APPLICATION] Outdoor, Architectural, Facade, Landscape, Parking, Site, Flood, Wet Location  
 [ \_SEARCH\_MOUNTING] Arm, Ground, Pole, Post Top, Wall  
 [ \_SEARCH\_CERTIFICATION] DLC  
 [ \_SEARCH\_CLASSIFICATION] IP66

Note: Candela values converted from Type-B to Type-C

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2077
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	19
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.04
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.00 ft
Luminous Width (90-270)	1.00 ft
Luminous Height	0.00 ft

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**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3019	3948	3600
55	2706	2974	2706
65	2608	1970	1359
75	1799	941	1140
85	0	507	178

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**CANDELA TABULATION**

	<u>0.0</u>	<u>2.5</u>	<u>5.0</u>	<u>7.5</u>	<u>10.0</u>	<u>12.5</u>	<u>15.0</u>	<u>17.5</u>	<u>20.0</u>	<u>22.5</u>
<b>0.0</b>	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
<b>2.5</b>	1355.808	1356.335	1356.893	1357.482	1358.102	1358.753	1359.435	1360.147	1360.889	1361.660
<b>5.0</b>	1365.551	1365.836	1366.068	1366.256	1366.407	1366.399	1369.921	1372.309	1374.602	1376.796
<b>7.5</b>	1412.826	1414.886	1416.596	1417.962	1419.985	1421.778	1423.278	1424.499	1424.287	1426.399
<b>10.0</b>	1468.040	1469.764	1471.196	1473.213	1475.338	1477.202	1478.818	1480.198	1483.747	1487.268
<b>12.5</b>	1494.023	1494.356	1494.545	1497.692	1500.347	1502.971	1506.099	1510.104	1514.315	1518.778
<b>15.0</b>	1482.475	1482.573	1483.936	1486.820	1489.982	1493.757	1498.475	1503.550	1508.560	1514.692
<b>17.5</b>	1443.212	1442.031	1443.948	1447.755	1452.286	1457.532	1463.237	1468.556	1473.473	1479.612
<b>20.0</b>	1388.648	1385.798	1387.719	1391.477	1396.068	1403.437	1407.602	1409.621	1413.564	1416.369
<b>22.5</b>	1323.690	1322.792	1322.945	1324.287	1325.840	1328.737	1329.372	1330.462	1330.809	1331.200
<b>25.0</b>	1247.906	1247.096	1244.809	1243.906	1242.904	1242.568	1240.341	1237.909	1233.041	1230.174
<b>27.5</b>	1153.563	1152.086	1147.942	1144.652	1141.816	1138.414	1135.908	1127.018	1121.409	1115.019
<b>30.0</b>	1032.824	1031.997	1026.860	1022.572	1019.921	1016.341	1011.894	1001.228	990.163	982.883
<b>32.5</b>	879.452	880.383	873.537	866.887	861.900	858.200	849.451	841.431	836.825	830.490
<b>35.0</b>	679.407	683.845	681.759	678.604	678.380	680.279	676.399	676.492	676.699	668.349
<b>37.5</b>	467.694	475.969	479.105	478.181	482.616	488.713	494.355	501.984	506.473	508.856
<b>40.0</b>	349.327	354.513	356.509	356.506	361.087	362.734	363.582	366.273	367.044	366.601
<b>42.5</b>	230.960	234.208	238.939	244.745	256.959	260.724	264.963	271.509	278.979	285.745
<b>45.0</b>	198.482	200.559	201.913	203.734	209.269	207.951	207.150	208.582	211.832	216.707
<b>47.5</b>	166.003	167.802	168.408	169.405	172.305	174.702	176.286	178.935	182.499	187.828
<b>50.0</b>	158.785	159.572	159.672	159.325	159.636	160.000	159.630	159.543	159.532	160.892
<b>52.5</b>	151.568	151.643	152.132	151.822	151.913	152.015	151.846	151.910	152.010	152.451
<b>55.0</b>	144.350	143.744	144.655	144.223	144.179	144.028	144.242	144.266	144.193	144.280
<b>57.5</b>	133.885	133.504	134.510	134.196	134.414	134.237	135.023	135.006	135.127	135.754
<b>60.0</b>	123.420	123.216	124.286	123.929	124.239	123.816	124.760	124.068	124.026	124.260
<b>62.5</b>	112.954	112.905	114.096	113.664	114.052	113.440	114.143	113.002	112.788	112.550
<b>65.0</b>	102.489	102.575	103.935	103.402	103.854	103.189	103.368	101.989	101.406	100.779
<b>67.5</b>	87.693	88.042	89.102	88.767	89.408	89.440	89.726	88.983	88.525	87.826
<b>70.0</b>	72.897	73.486	74.042	73.836	74.426	74.749	75.033	74.585	74.090	72.039
<b>72.5</b>	58.101	58.942	58.924	58.940	59.493	60.038	60.503	60.171	59.731	55.725
<b>75.0</b>	43.305	44.406	43.759	44.036	44.601	45.310	46.108	45.745	45.438	38.985
<b>77.5</b>	32.479	33.310	33.077	33.277	33.621	34.069	34.625	34.127	33.694	26.574
<b>80.0</b>	21.653	22.222	22.532	22.728	23.007	23.370	23.820	23.501	22.979	18.170
<b>82.5</b>	10.826	11.124	12.013	12.177	12.388	12.663	13.003	12.945	12.672	10.216
<b>85.0</b>	0.000	0.021	1.510	1.624	1.765	1.950	2.178	2.413	2.636	2.582
<b>87.5</b>	0.000	0.000	0.723	0.728	0.733	0.740	0.747	0.757	0.768	0.781
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Angles**      **Horizontal Angles**

	<u>25.0</u>	<u>27.5</u>	<u>30.0</u>	<u>32.5</u>	<u>35.0</u>	<u>37.5</u>	<u>40.0</u>	<u>42.5</u>	<u>45.0</u>	<u>47.5</u>
<b>0.0</b>	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
<b>2.5</b>	1362.187	1364.513	1366.128	1367.750	1369.377	1371.007	1372.635	1374.260	1375.879	1377.488
<b>5.0</b>	1378.884	1380.860	1382.720	1384.459	1386.072	1387.034	1390.700	1393.364	1395.887	1398.266
<b>7.5</b>	1428.494	1431.326	1433.910	1436.249	1438.346	1440.201	1441.817	1442.034	1444.472	1444.329
<b>10.0</b>	1489.815	1493.374	1495.220	1496.665	1497.976	1499.181	1500.291	1501.313	1501.343	1502.987
<b>12.5</b>	1523.715	1529.158	1533.477	1536.473	1539.025	1540.695	1542.953	1545.821	1548.538	1547.774
<b>15.0</b>	1521.176	1528.480	1535.384	1538.220	1542.177	1546.701	1548.476	1551.947	1554.051	1555.340
<b>17.5</b>	1485.430	1490.474	1496.895	1501.689	1503.490	1506.963	1511.067	1515.366	1514.263	1516.218
<b>20.0</b>	1419.670	1425.779	1426.681	1432.958	1432.436	1433.209	1436.586	1439.925	1438.346	1440.596
<b>22.5</b>	1332.053	1332.003	1335.008	1332.304	1331.953	1331.116	1330.441	1331.970	1332.445	1335.558
<b>25.0</b>	1227.035	1224.758	1220.097	1217.434	1213.577	1211.732	1210.818	1210.951	1212.425	1215.383
<b>27.5</b>	1110.530	1102.802	1097.151	1092.378	1089.344	1087.540	1085.596	1084.723	1086.810	1089.612
<b>30.0</b>	974.180	968.362	964.046	961.530	959.991	955.411	952.783	952.861	953.232	954.239

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**CANDELA TABULATION - (Cont.)**

32.5	825.993	824.388	822.875	818.580	815.667	814.195	812.601	811.753	812.656	813.924
35.0	664.710	664.525	665.803	667.466	669.801	670.987	665.166	664.888	666.079	667.782
37.5	512.116	514.778	518.807	519.194	521.203	521.519	521.111	522.021	524.342	526.945
40.0	369.093	380.593	404.182	411.450	406.136	395.618	382.597	387.340	402.031	403.795
42.5	289.434	302.683	320.031	319.317	319.593	316.458	307.023	309.452	316.824	320.799
45.0	226.175	239.067	249.591	255.335	260.342	261.451	256.024	255.935	259.613	256.659
47.5	192.096	195.582	199.182	204.693	215.700	220.395	219.241	217.766	217.842	218.401
50.0	162.767	166.802	171.035	177.591	184.257	189.297	194.703	197.910	199.323	200.593
52.5	152.298	151.394	151.036	151.278	155.456	161.201	168.395	176.077	184.038	186.710
55.0	144.041	143.427	143.292	143.109	142.353	142.086	142.793	150.215	158.635	167.216
57.5	136.096	135.693	135.505	134.973	134.313	134.059	134.257	134.301	136.093	140.660
60.0	124.406	124.714	125.283	125.775	126.345	125.718	124.308	122.545	121.862	118.520
62.5	112.506	112.373	112.208	112.044	110.920	110.951	109.629	108.686	101.392	94.820
65.0	100.583	99.830	98.789	97.609	93.268	90.118	86.491	84.039	77.401	68.022
67.5	87.485	87.109	85.066	81.129	74.015	67.700	62.148	59.330	56.089	50.862
70.0	69.739	68.011	67.369	63.125	55.392	45.760	36.743	38.209	38.878	38.236
72.5	51.577	49.027	49.034	46.015	41.212	34.695	27.784	27.583	27.527	28.288
75.0	33.082	30.334	31.022	30.399	28.747	25.745	22.990	22.632	22.644	23.454
77.5	19.926	16.608	16.304	16.890	17.815	18.572	18.178	17.652	17.830	18.684
80.0	13.686	11.860	11.778	12.255	12.793	13.401	13.271	12.808	13.138	13.951
82.5	7.901	7.159	7.230	7.592	8.002	8.465	8.415	8.233	8.650	9.274
85.0	2.438	2.491	2.664	2.909	3.185	3.497	3.647	3.760	4.111	4.534
87.5	0.797	0.814	0.834	0.856	0.881	0.910	0.942	0.979	1.020	1.068
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.  
Angles**

**Horizontal Angles**

	<u>50.0</u>	<u>52.5</u>	<u>55.0</u>	<u>57.5</u>	<u>60.0</u>	<u>62.5</u>	<u>65.0</u>	<u>67.5</u>	<u>70.0</u>	<u>72.5</u>
0.0	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
2.5	1379.085	1380.665	1382.227	1383.767	1385.280	1386.765	1388.681	1389.818	1391.635	1393.417
5.0	1400.495	1402.322	1406.171	1410.284	1414.252	1418.068	1421.725	1425.218	1428.541	1431.690
7.5	1448.192	1451.484	1454.540	1457.352	1459.914	1462.218	1464.256	1467.281	1471.085	1476.302
10.0	1503.851	1504.535	1505.030	1505.328	1505.015	1508.276	1510.279	1512.903	1514.630	1516.148
12.5	1545.957	1544.635	1543.792	1543.289	1542.992	1542.206	1540.518	1539.644	1540.511	1541.281
15.0	1553.578	1553.279	1552.328	1550.524	1549.916	1547.963	1544.798	1542.336	1540.605	1540.201
17.5	1518.046	1519.603	1518.826	1519.697	1523.101	1517.289	1515.031	1513.794	1511.453	1510.237
20.0	1444.874	1445.617	1447.668	1453.752	1452.643	1453.729	1454.927	1453.954	1455.981	1454.420
22.5	1342.255	1343.568	1348.863	1354.360	1360.341	1365.411	1367.643	1372.607	1373.729	1379.036
25.0	1220.254	1230.198	1232.312	1236.976	1244.431	1251.923	1263.108	1269.101	1279.268	1284.171
27.5	1091.046	1095.072	1101.265	1108.890	1118.359	1128.880	1140.889	1154.913	1166.298	1178.132
30.0	958.357	961.485	967.114	976.050	986.814	997.171	1007.825	1021.605	1037.874	1054.133
32.5	816.558	820.739	826.012	831.619	839.912	851.526	867.134	874.797	886.585	900.388
35.0	669.853	672.754	676.755	682.644	687.904	694.148	701.855	712.381	723.864	732.269
37.5	528.086	529.040	533.784	536.546	538.904	540.805	542.534	537.298	524.972	504.256
40.0	404.415	409.508	407.566	406.845	411.692	410.802	400.525	379.406	348.383	325.395
42.5	319.191	316.557	319.866	323.805	323.648	314.546	298.888	293.694	287.395	281.157
45.0	247.771	257.251	265.199	268.272	265.711	263.415	258.053	251.369	244.362	237.497
47.5	219.601	219.030	222.795	229.358	231.678	228.447	221.730	216.881	217.843	218.657
50.0	201.546	201.570	201.789	203.360	205.263	202.313	201.636	202.043	202.634	202.113
52.5	188.008	188.160	188.862	189.328	187.984	185.522	184.953	186.184	182.953	177.666
55.0	173.866	173.321	174.273	172.133	168.530	167.081	163.732	156.572	151.940	147.982
57.5	146.050	152.391	152.708	148.328	146.643	140.578	130.981	123.162	118.431	116.221
60.0	119.227	119.664	118.386	120.475	117.352	109.894	99.954	89.096	83.282	86.857
62.5	91.998	87.232	80.520	83.367	86.947	82.757	72.216	60.010	62.480	69.638
65.0	63.577	60.248	56.897	59.185	60.588	59.356	51.968	52.290	53.359	55.736
67.5	46.512	39.846	40.709	44.090	45.576	45.025	45.629	46.003	46.152	46.958

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**CANDELA TABULATION - (Cont.)**

<b>70.0</b>	36.303	33.646	33.528	33.382	34.495	36.494	38.477	39.688	40.152	40.133
<b>72.5</b>	29.206	29.060	29.009	28.918	28.841	29.144	30.808	32.573	33.843	34.403
<b>75.0</b>	24.216	24.354	24.693	24.684	24.401	24.401	24.854	25.856	27.264	28.016
<b>77.5</b>	19.146	19.060	19.166	19.424	19.451	19.376	19.435	20.033	20.815	21.525
<b>80.0</b>	14.026	13.694	13.525	13.561	13.652	13.727	13.777	13.865	14.492	15.177
<b>82.5</b>	9.257	8.986	8.627	8.378	8.132	8.185	8.318	8.605	8.982	9.278
<b>85.0</b>	4.662	4.707	4.691	4.726	4.723	4.648	4.478	4.405	4.302	4.502
<b>87.5</b>	1.122	1.185	1.257	1.342	1.444	1.663	1.838	1.994	2.110	2.166
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Horizontal Angles**  
**Angles**

	<u><b>75.0</b></u>	<u><b>77.5</b></u>	<u><b>80.0</b></u>	<u><b>82.5</b></u>	<u><b>85.0</b></u>	<u><b>87.5</b></u>	<u><b>90.0</b></u>	<u><b>92.5</b></u>	<u><b>95.0</b></u>	<u><b>97.5</b></u>
<b>0.0</b>	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
<b>2.5</b>	1395.158	1396.854	1398.502	1400.098	1401.636	1403.113	1404.526	1405.633	1406.671	1407.639
<b>5.0</b>	1434.661	1438.126	1440.343	1443.230	1445.920	1448.414	1450.718	1453.149	1455.385	1457.418
<b>7.5</b>	1480.335	1484.087	1487.559	1490.799	1494.664	1498.264	1501.601	1504.321	1506.777	1509.098
<b>10.0</b>	1520.069	1523.916	1527.493	1530.800	1534.144	1538.032	1541.659	1545.035	1548.173	1550.271
<b>12.5</b>	1541.951	1543.908	1547.382	1550.810	1554.170	1557.690	1561.146	1565.092	1568.638	1570.884
<b>15.0</b>	1540.727	1541.692	1543.889	1547.027	1550.218	1553.713	1557.537	1560.493	1563.583	1566.779
<b>17.5</b>	1510.089	1511.760	1510.516	1513.544	1517.570	1522.400	1528.378	1530.362	1532.990	1536.242
<b>20.0</b>	1455.156	1456.467	1456.629	1458.119	1460.357	1463.765	1468.521	1473.348	1477.702	1483.386
<b>22.5</b>	1379.491	1383.039	1386.027	1391.129	1394.818	1400.760	1405.969	1410.967	1415.664	1421.266
<b>25.0</b>	1292.516	1298.578	1305.685	1311.923	1318.301	1325.082	1332.592	1338.047	1342.971	1346.986
<b>27.5</b>	1188.211	1199.013	1210.341	1219.562	1229.234	1238.012	1246.978	1251.664	1255.527	1256.283
<b>30.0</b>	1071.113	1083.352	1094.913	1106.539	1117.708	1126.861	1136.396	1140.188	1143.938	1143.058
<b>32.5</b>	914.779	928.807	943.855	959.248	972.128	982.994	992.948	995.040	995.894	991.994
<b>35.0</b>	726.516	718.091	708.300	699.196	691.555	688.015	784.622	695.137	705.785	720.024
<b>37.5</b>	478.519	449.718	419.036	391.256	368.791	353.474	560.078	353.603	369.751	394.683
<b>40.0</b>	319.301	314.653	310.548	307.227	305.552	304.595	410.676	305.760	307.954	310.543
<b>42.5</b>	274.792	269.870	265.585	262.326	260.827	260.297	261.274	263.060	266.070	268.898
<b>45.0</b>	236.583	236.705	236.444	236.128	235.871	236.165	236.735	237.822	239.655	240.756
<b>47.5</b>	218.431	217.063	215.706	214.477	212.915	212.749	212.195	212.794	214.281	216.044
<b>50.0</b>	200.887	196.327	193.272	191.350	190.280	190.168	189.580	190.168	191.253	193.049
<b>52.5</b>	173.651	171.058	168.702	167.663	167.412	167.424	166.965	167.607	168.459	169.672
<b>55.0</b>	145.348	143.821	143.592	143.996	144.329	144.646	144.350	145.054	145.647	145.728
<b>57.5</b>	114.692	117.055	120.236	121.291	121.243	121.542	121.615	122.393	123.134	122.829
<b>60.0</b>	93.062	96.911	98.743	99.491	98.846	98.544	98.880	99.738	100.904	101.067
<b>62.5</b>	75.525	78.698	79.041	79.138	77.115	75.692	76.145	77.096	78.615	79.861
<b>65.0</b>	59.967	62.401	61.030	59.403	55.928	53.024	53.410	54.468	56.293	60.012
<b>67.5</b>	48.603	48.446	47.844	47.134	47.109	46.153	46.914	47.255	47.109	48.421
<b>70.0</b>	40.633	40.986	41.328	40.547	41.146	40.063	40.419	40.806	41.146	41.881
<b>72.5</b>	34.357	34.940	34.867	35.205	35.124	33.984	33.923	34.370	35.227	35.205
<b>75.0</b>	28.745	28.736	29.105	28.473	28.671	27.923	27.427	27.949	29.327	29.538
<b>77.5</b>	22.287	23.165	23.132	23.045	22.321	21.564	20.931	21.586	22.821	23.045
<b>80.0</b>	15.896	16.659	17.577	17.156	16.245	15.227	14.436	15.905	16.931	17.156
<b>82.5</b>	9.747	10.500	11.378	11.845	10.918	8.765	7.940	10.012	10.918	12.194
<b>85.0</b>	4.835	5.452	6.179	6.665	6.181	4.162	1.444	4.223	6.779	7.243
<b>87.5</b>	2.131	2.368	2.759	3.327	3.197	2.041	0.722	2.557	3.282	3.746
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Horizontal Angles**  
**Angles**

	<u><b>100.0</b></u>	<u><b>102.5</b></u>	<u><b>105.0</b></u>	<u><b>107.5</b></u>	<u><b>110.0</b></u>	<u><b>112.5</b></u>	<u><b>115.0</b></u>	<u><b>117.5</b></u>	<u><b>120.0</b></u>	<u><b>122.5</b></u>
<b>0.0</b>	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
<b>2.5</b>	1408.535	1409.359	1410.111	1410.789	1411.395	1412.380	1412.369	1412.725	1413.003	1413.205

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES**

**CANDELA TABULATION - (Cont.)**

5.0	1459.237	1460.607	1461.425	1462.054	1462.497	1462.757	1462.835	1462.736	1462.463	1462.017
7.5	1510.163	1511.070	1511.723	1512.127	1511.492	1512.192	1511.914	1511.496	1510.947	1510.279
10.0	1551.837	1553.181	1554.308	1555.180	1555.348	1555.279	1554.340	1553.874	1552.640	1553.315
12.5	1573.045	1575.131	1577.054	1578.791	1580.411	1581.910	1584.695	1587.950	1590.124	1591.530
15.0	1570.082	1573.296	1576.463	1579.809	1583.581	1588.156	1593.284	1599.001	1604.935	1609.034
17.5	1540.239	1547.155	1550.910	1555.904	1561.349	1567.503	1573.273	1580.243	1590.737	1591.604
20.0	1489.570	1496.922	1502.514	1507.729	1513.867	1518.218	1524.505	1528.535	1532.818	1537.437
22.5	1425.643	1430.950	1433.838	1438.239	1440.176	1444.673	1445.006	1447.989	1447.748	1446.886
25.0	1349.476	1349.929	1350.887	1348.646	1348.579	1345.736	1346.138	1340.252	1337.880	1335.169
27.5	1256.157	1252.003	1247.232	1242.572	1236.167	1230.594	1223.816	1218.028	1213.305	1209.927
30.0	1140.441	1136.409	1128.029	1116.744	1107.058	1097.839	1090.148	1081.920	1077.816	1072.675
32.5	985.284	977.656	970.005	962.822	955.882	951.052	948.275	939.082	931.218	926.345
35.0	736.715	755.572	774.658	792.451	792.515	787.430	782.713	779.166	777.174	775.175
37.5	426.467	462.005	499.274	534.592	566.896	593.378	612.446	619.611	619.104	616.420
40.0	313.769	317.704	322.175	327.375	356.091	400.473	435.055	458.285	470.964	474.079
42.5	272.814	276.871	281.840	287.270	293.180	299.240	304.235	330.182	351.703	360.913
45.0	242.744	244.368	245.684	247.462	253.414	259.279	265.001	269.374	271.439	281.143
47.5	218.509	221.039	223.494	225.279	225.654	224.887	228.135	233.535	236.331	233.989
50.0	194.813	197.818	202.451	205.803	207.250	206.314	205.569	205.332	207.522	205.517
52.5	170.800	172.738	175.890	180.435	185.176	188.268	187.834	187.593	188.218	188.991
55.0	145.683	146.292	147.554	150.697	154.066	159.349	166.574	169.638	170.578	172.416
57.5	121.691	118.905	117.402	118.850	121.209	125.695	133.606	144.821	151.420	150.552
60.0	100.933	98.585	95.437	89.603	85.618	90.854	102.355	113.503	121.592	123.826
62.5	80.736	79.996	77.422	71.759	63.643	60.388	73.640	85.354	89.216	84.513
65.0	62.189	63.201	61.901	56.552	53.977	52.999	53.323	59.966	60.132	59.123
67.5	47.850	49.425	49.228	47.762	47.190	47.336	45.462	43.816	45.456	44.778
70.0	41.720	41.675	41.394	41.463	41.326	39.455	37.972	36.660	35.548	34.826
72.5	35.599	35.241	35.496	35.467	33.706	32.482	31.212	30.215	30.214	30.362
75.0	29.086	29.376	29.359	28.048	27.279	26.119	25.649	25.552	25.764	26.128
77.5	23.270	23.405	22.492	21.949	21.289	20.785	20.600	20.774	21.009	21.225
80.0	17.652	17.238	16.943	16.226	15.697	15.309	15.283	15.415	15.617	15.876
82.5	12.145	11.878	11.141	10.722	10.426	10.049	9.876	10.079	10.398	10.867
85.0	7.069	6.671	6.278	5.946	5.746	5.849	5.966	6.333	6.549	6.650
87.5	3.525	3.486	3.574	3.610	3.554	3.437	3.282	3.121	2.882	2.682
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Horizontal Angles**

	<u>125.0</u>	<u>127.5</u>	<u>130.0</u>	<u>132.5</u>	<u>135.0</u>	<u>137.5</u>	<u>140.0</u>	<u>142.5</u>	<u>145.0</u>	<u>147.5</u>
0.0	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
2.5	1413.329	1413.375	1413.344	1413.236	1413.051	1412.790	1412.453	1412.040	1411.553	1410.992
5.0	1461.402	1460.675	1459.929	1459.032	1457.989	1456.801	1455.469	1453.264	1451.162	1452.459
7.5	1509.502	1508.626	1507.659	1507.024	1507.083	1506.206	1506.457	1505.673	1504.774	1503.752
10.0	1553.695	1553.783	1553.581	1553.092	1552.251	1554.705	1556.283	1557.589	1558.616	1559.358
12.5	1593.657	1596.597	1599.812	1603.311	1607.234	1605.686	1605.299	1605.172	1605.285	1605.522
15.0	1613.888	1617.624	1620.408	1624.157	1625.817	1626.837	1626.238	1626.823	1624.780	1623.540
17.5	1594.966	1599.988	1602.463	1603.834	1604.219	1605.559	1605.069	1603.513	1602.711	1603.543
20.0	1537.342	1540.024	1544.099	1543.245	1543.323	1545.764	1544.317	1543.059	1544.505	1545.137
22.5	1446.666	1446.381	1447.831	1447.130	1447.988	1451.140	1449.852	1450.842	1453.031	1455.461
25.0	1334.707	1337.800	1332.245	1330.674	1330.839	1332.781	1335.424	1338.109	1341.455	1348.000
27.5	1207.481	1204.623	1203.550	1205.361	1205.379	1205.762	1208.872	1210.862	1217.326	1223.630
30.0	1068.620	1067.661	1068.063	1066.538	1068.816	1071.877	1074.094	1079.026	1086.208	1090.348
32.5	923.842	922.162	921.720	921.890	923.731	926.315	929.581	933.400	939.347	947.668
35.0	771.707	770.336	770.307	771.651	771.406	772.643	775.140	780.133	783.987	789.012
37.5	619.198	618.236	618.517	618.599	618.232	619.810	621.678	623.195	625.096	623.320
40.0	476.351	478.585	477.370	477.255	478.725	478.166	477.536	479.212	477.941	472.387

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

42.5	360.099	357.882	363.498	360.568	351.847	362.997	365.982	362.192	351.009	339.667
45.0	284.277	282.401	277.188	281.395	282.498	281.195	276.938	277.754	272.849	265.716
47.5	229.470	231.199	233.478	231.101	230.171	229.856	227.615	222.825	213.551	202.757
50.0	203.870	203.266	203.861	202.583	200.078	196.825	189.472	184.149	179.802	175.851
52.5	188.400	186.790	184.539	182.178	178.043	171.536	165.158	159.402	154.629	151.443
55.0	172.745	170.455	167.838	161.387	154.501	147.693	141.638	142.056	142.733	143.647
57.5	152.683	151.094	143.954	137.930	133.919	133.513	134.419	134.776	135.204	136.018
60.0	119.587	120.535	120.048	118.763	122.215	123.827	126.161	127.693	128.025	127.656
62.5	80.832	88.411	94.027	97.015	104.307	112.594	113.202	114.512	114.492	115.881
65.0	57.503	61.660	65.855	71.012	80.699	87.540	90.263	94.779	98.514	103.418
67.5	41.955	41.386	48.507	53.164	58.571	61.883	65.362	72.740	80.672	88.743
70.0	34.972	35.089	37.936	40.028	40.700	39.951	38.722	50.481	62.283	70.431
72.5	30.453	30.504	30.667	29.684	29.248	29.432	29.631	38.339	46.594	51.714
75.0	26.098	25.858	25.669	25.304	25.172	25.271	25.405	28.801	32.725	34.587
77.5	21.027	20.817	20.693	20.704	20.958	21.188	21.250	21.452	20.745	19.737
80.0	15.924	15.798	15.744	15.919	16.331	16.498	16.272	15.932	15.269	14.681
82.5	11.109	11.035	10.943	10.903	11.050	11.090	10.831	10.547	10.042	9.594
85.0	6.642	6.439	6.224	6.010	5.877	5.704	5.411	5.127	4.786	4.485
87.5	2.513	2.369	2.244	2.135	2.040	1.957	1.884	1.819	1.762	1.711
90.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.  
Angles**

**Horizontal Angles**

	<u>150.0</u>	<u>152.5</u>	<u>155.0</u>	<u>157.5</u>	<u>160.0</u>	<u>162.5</u>	<u>165.0</u>	<u>167.5</u>	<u>170.0</u>	<u>172.5</u>
0.0	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543	1378.543
2.5	1410.358	1409.651	1408.128	1408.434	1408.475	1408.471	1408.422	1408.324	1408.176	1407.977
5.0	1451.647	1450.726	1449.692	1448.545	1447.281	1445.899	1444.396	1441.883	1442.733	1441.490
7.5	1502.601	1501.312	1499.872	1499.857	1497.970	1497.244	1496.210	1494.861	1493.192	1491.326
10.0	1559.803	1559.924	1559.531	1558.510	1557.264	1555.785	1554.737	1553.448	1551.891	1550.035
12.5	1605.662	1604.566	1602.401	1600.285	1598.132	1595.947	1593.703	1591.912	1590.342	1588.596
15.0	1622.691	1619.744	1615.779	1612.343	1609.120	1606.214	1603.232	1600.484	1598.264	1596.321
17.5	1601.246	1597.535	1595.198	1591.994	1588.161	1585.247	1580.915	1577.464	1573.699	1571.473
20.0	1543.214	1544.968	1541.704	1541.021	1540.470	1538.473	1538.285	1534.867	1531.748	1529.475
22.5	1460.049	1460.652	1464.441	1466.330	1468.003	1469.564	1470.224	1471.388	1470.660	1471.246
25.0	1353.106	1359.157	1365.834	1373.020	1377.587	1382.446	1386.661	1391.976	1394.648	1397.584
27.5	1232.645	1241.601	1252.334	1261.287	1272.468	1276.616	1284.723	1292.492	1300.418	1306.232
30.0	1096.568	1107.081	1118.166	1132.164	1143.192	1156.339	1165.842	1174.272	1184.664	1191.486
32.5	952.749	959.292	968.585	978.843	990.536	1000.311	1009.073	1019.240	1030.872	1041.685
35.0	794.647	799.788	805.947	814.050	826.018	829.948	832.354	834.938	838.328	842.790
37.5	632.501	636.871	638.962	635.541	635.804	635.742	633.590	629.339	626.914	625.810
40.0	470.087	475.678	473.795	470.931	470.529	467.079	458.713	449.429	440.594	433.281
42.5	337.799	345.488	346.901	341.910	344.608	329.948	306.915	283.419	262.555	245.028
45.0	259.202	250.580	234.834	226.726	238.158	240.115	225.552	213.831	205.622	200.420
47.5	201.157	200.322	195.479	191.767	191.539	192.092	183.450	177.585	173.260	170.423
50.0	172.018	168.765	164.489	162.288	162.012	160.957	161.010	161.188	160.681	160.060
52.5	152.114	152.731	153.309	153.358	153.336	152.939	152.960	152.995	152.475	151.865
55.0	144.309	144.796	144.792	144.695	144.637	144.669	144.902	144.953	144.259	143.665
57.5	136.738	137.117	136.771	136.051	135.750	135.886	136.226	136.415	135.627	135.020
60.0	127.672	127.377	126.921	126.423	126.504	126.819	127.181	127.659	126.906	126.325
62.5	116.531	116.839	116.796	116.664	117.128	117.602	118.130	118.888	118.174	117.624
65.0	105.068	106.254	106.514	106.778	107.619	108.445	109.075	109.875	109.433	108.918
67.5	93.322	95.510	94.798	94.870	95.415	95.541	95.478	95.479	94.681	93.829
70.0	74.846	75.483	76.353	78.487	80.422	80.022	79.989	79.706	78.988	78.213
72.5	54.918	55.195	57.370	61.489	65.673	64.484	64.565	63.990	63.281	62.589
75.0	35.214	35.113	37.949	43.997	51.125	48.932	49.194	48.320	47.562	46.959
77.5	19.098	20.176	23.894	30.699	38.720	36.737	37.212	36.637	35.967	35.762

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES**

**CANDELA TABULATION - (Cont.)**

<b>80.0</b>	14.161	14.707	16.864	21.390	26.810	25.877	26.035	25.569	24.790	24.769
<b>82.5</b>	9.199	9.348	10.287	12.588	15.357	14.915	14.845	14.493	13.630	13.757
<b>85.0</b>	4.218	4.068	4.030	4.145	4.211	3.903	3.647	3.410	2.138	2.547
<b>87.5</b>	1.666	1.627	1.593	1.562	1.536	1.513	1.494	1.479	1.096	1.277
<b>90.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert. Angles**      **Horizontal Angles**

	<u><b>175.0</b></u>	<u><b>177.5</b></u>	<u><b>180.0</b></u>
<b>0.0</b>	1378.543	1378.543	1378.543
<b>2.5</b>	1407.724	1407.417	1407.052
<b>5.0</b>	1440.239	1438.984	1437.726
<b>7.5</b>	1490.760	1489.854	1488.610
<b>10.0</b>	1548.242	1546.951	1545.267
<b>12.5</b>	1586.269	1585.148	1583.520
<b>15.0</b>	1594.469	1593.624	1593.624
<b>17.5</b>	1569.781	1569.110	1569.951
<b>20.0</b>	1527.994	1527.521	1528.185
<b>22.5</b>	1471.310	1475.257	1475.257
<b>25.0</b>	1400.555	1404.878	1405.488
<b>27.5</b>	1310.840	1314.978	1317.297
<b>30.0</b>	1197.475	1200.562	1204.601
<b>32.5</b>	1051.402	1054.835	1062.055
<b>35.0</b>	848.014	847.674	853.910
<b>37.5</b>	627.120	622.086	629.366
<b>40.0</b>	429.761	425.861	429.442
<b>42.5</b>	235.076	225.683	229.517
<b>45.0</b>	198.331	196.911	198.482
<b>47.5</b>	168.734	167.446	167.446
<b>50.0</b>	159.618	159.354	159.266
<b>52.5</b>	151.432	151.173	151.087
<b>55.0</b>	143.243	142.907	142.907
<b>57.5</b>	134.589	134.332	134.607
<b>60.0</b>	125.913	125.667	126.307
<b>62.5</b>	117.234	117.001	118.006
<b>65.0</b>	108.263	108.263	109.706
<b>67.5</b>	93.225	92.741	93.467
<b>70.0</b>	77.664	77.102	77.228
<b>72.5</b>	62.099	61.474	60.988
<b>75.0</b>	46.192	45.770	44.749
<b>77.5</b>	35.566	35.012	33.923
<b>80.0</b>	24.702	24.192	23.097
<b>82.5</b>	13.836	13.368	12.270
<b>85.0</b>	2.887	2.519	1.444
<b>87.5</b>	1.449	1.263	0.722
<b>90.0</b>	0.000	0.000	0.000



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	576.16	N.A.	27.70
0-30	1168.22	N.A.	56.20
0-40	1619.14	N.A.	78.00
0-60	1953.89	N.A.	94.10
0-80	2069.98	N.A.	99.70
0-90	2076.87	N.A.	100.00
10-90	1937.32	N.A.	93.30
20-40	1042.99	N.A.	50.20
20-50	1243.17	N.A.	59.90
40-70	415.53	N.A.	20.00
60-80	116.09	N.A.	5.60
70-80	35.30	N.A.	1.70
80-90	6.89	N.A.	0.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2076.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	139.55
10-20	436.61
20-30	592.06
30-40	450.93
40-50	200.19
50-60	134.56
60-70	80.79
70-80	35.30
80-90	6.89
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	145	145	145	145	141	141	141	141	135	135	135	129	129	129	124	124	124	122
1	136	132	129	125	133	130	126	123	125	122	119	120	118	116	116	114	113	110
2	128	121	115	110	125	119	113	108	114	110	106	111	107	104	107	104	102	99
3	120	110	103	97	117	109	102	97	105	100	95	102	97	93	99	95	92	90
4	112	102	93	87	110	100	93	87	97	91	86	95	89	85	92	88	84	82
5	106	94	85	79	103	92	85	79	90	83	78	88	82	77	86	81	77	74
6	99	87	78	72	97	86	78	72	84	77	71	82	76	71	80	75	70	68
7	94	81	72	66	92	80	72	66	78	71	66	77	70	65	75	69	65	63
8	88	75	67	61	87	74	66	61	73	66	61	72	65	60	70	64	60	58
9	84	70	62	57	82	70	62	56	68	61	56	67	61	56	66	60	56	54
10	79	66	58	53	78	65	58	53	64	57	52	63	57	52	62	56	52	50

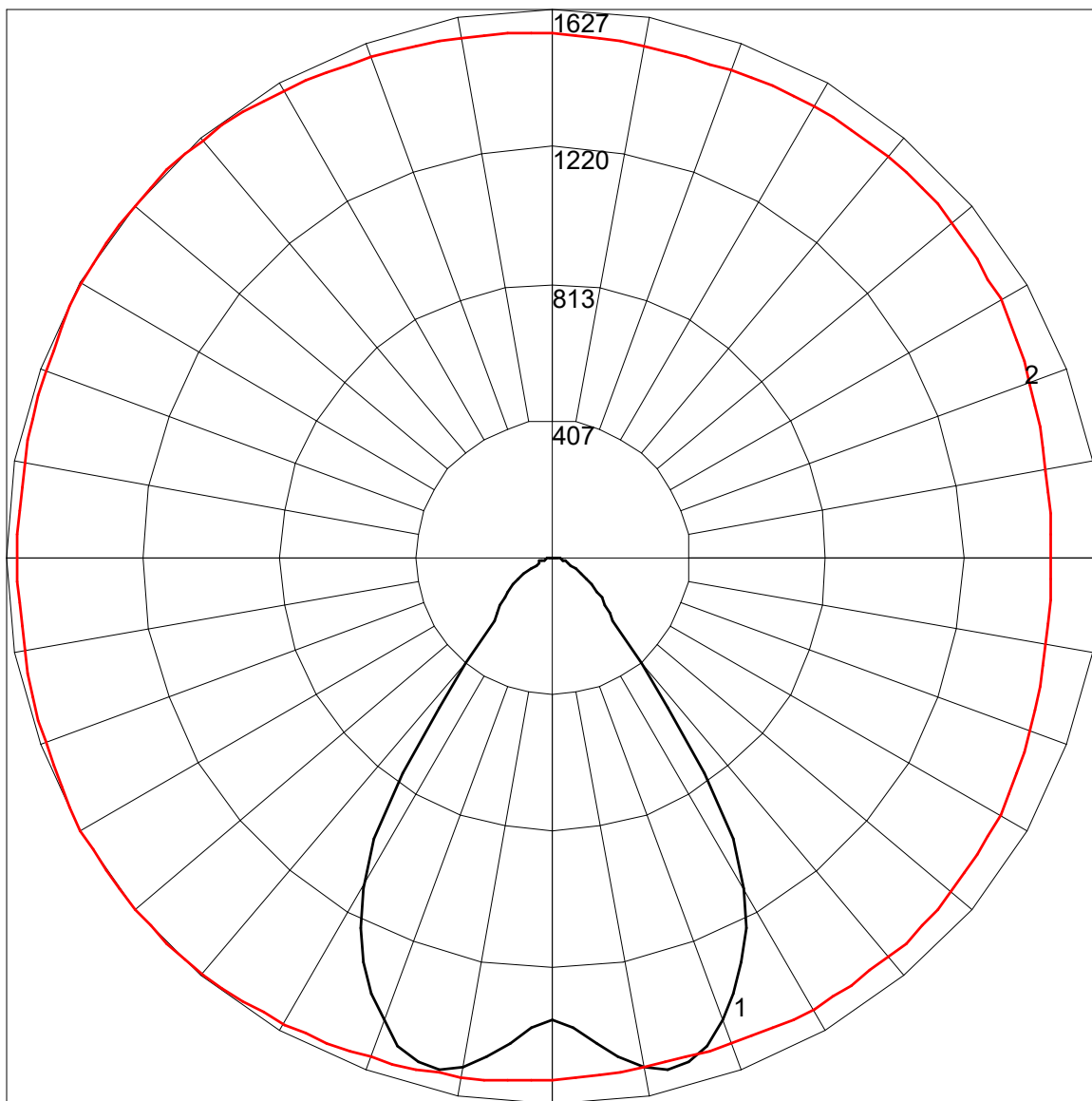
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : VF1-L20-750-MF-XX-DIM-UNV\_.IES**

**UGR TABLE - CORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	12.8	14.1	13.1	14.4	14.8	1.9	1.9	1.9	1.9	1.9
	3H	14.6	15.8	15.0	16.2	16.5	1.9	1.9	1.9	1.9	1.9
	4H	15.1	16.3	15.5	16.6	17.0	1.9	1.9	1.9	1.9	1.9
	6H	15.4	16.5	15.8	16.8	17.2	1.9	1.9	1.9	1.9	1.9
	8H	15.4	16.4	15.8	16.8	17.2	1.9	1.9	1.9	1.9	1.9
	12H	15.4	16.4	15.8	16.7	17.2	1.9	1.9	1.9	1.9	1.9
4H	2H	12.6	13.8	13.0	14.1	14.5	1.9	2.4	1.9	2.7	3.1
	3H	14.6	15.6	15.0	16.0	16.4	2.2	3.1	2.6	3.5	3.9
	4H	15.2	16.0	15.6	16.5	16.9	2.3	3.2	2.8	3.6	4.1
	6H	15.6	16.4	16.1	16.8	17.3	2.4	3.2	2.9	3.6	4.1
	8H	15.7	16.4	16.2	16.9	17.3	2.5	3.2	3.0	3.6	4.1
	12H	15.7	16.3	16.2	16.8	17.3	2.5	3.1	3.0	3.6	4.1
8H	4H	15.1	15.8	15.6	16.2	16.7	4.2	4.9	4.7	5.3	5.8
	6H	15.6	16.1	16.1	16.6	17.1	4.4	5.0	4.9	5.5	6.0
	8H	15.7	16.2	16.2	16.7	17.2	4.5	5.0	5.0	5.5	6.0
	12H	15.6	16.1	16.1	16.6	17.2	4.5	5.0	5.0	5.4	6.0
12H	4H	15.0	15.7	15.5	16.1	16.6	4.5	5.1	4.9	5.6	6.0
	6H	15.5	16.0	16.1	16.5	17.0	4.8	5.3	5.3	5.7	6.3
	8H	15.6	16.1	16.1	16.6	17.1	4.8	5.3	5.3	5.8	6.4

Maximum UGR = 17.3

POLAR GRAPH



Maximum Candela = 1626.837 Located At Horizontal Angle = 137.5, Vertical Angle = 15  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)