



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM ATAL009596-R2  
 [TESTLAB]ATAL-LABS  
 [ISSUEDATE]03-09-2022  
 [MANUFAC]WILLIAMS OUTDOOR  
 [OTHER]H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT]VF1-L20-750-NS-xx-DIM-UNV  
 [LUMINAIRE]\*\*\*THIS IS A REVISION OF ATAL009596 TO UPDATE LAMP CATALOG  
 [MORE]NUMBER\*\*\*VOLTAIRE SMALL ARCHITECTURAL FLOOD LIGHT WITH NARROW  
 [MORE]SPOT 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-042S070DS  
 [BALLAST](1) INVENTRONICS ELECTRONIC DRIVER  
 [OTHER]INPUT WATTS: 36.22, AMPS: 0.3043, VAC: 120.05, TEMP: 25.6 C  
 [ \_SEARCH\_SOURCE]TYPE] 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	1933
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	19
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.36
Spacing Criterion (90-270)	0.34
Spacing Criterion (Diagonal)	0.32
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.00 ft
Luminous Width (90-270)	0.48 ft (Diameter)
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	5035	5264	5243
55	5876	6920	5656
65	11764	13154	11465
75	8628	8456	7000
85	0	4122	1451

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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>	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
<b>2.5</b>	11213.306	11206.987	11201.338	11196.387	11192.160	11188.681	11185.974	11184.057	11182.949	11182.666
<b>5.0</b>	10350.310	10331.740	10317.057	10306.373	10299.793	10304.881	10263.772	10244.682	10230.429	10221.119
<b>7.5</b>	8385.694	8351.028	8331.012	8325.894	8301.476	8289.090	8291.416	8308.391	8393.625	8369.286
<b>10.0</b>	5741.420	5690.926	5661.090	5636.084	5622.970	5627.548	5648.866	5685.983	5660.269	5642.356
<b>12.5</b>	3378.511	3340.049	3327.053	3315.624	3326.840	3351.970	3371.166	3371.789	3378.385	3389.045
<b>15.0</b>	1988.107	1994.423	1994.794	1985.892	1988.812	1998.430	2006.613	2020.561	2046.886	2040.374
<b>17.5</b>	1305.340	1307.065	1298.404	1286.781	1279.583	1270.542	1270.780	1281.832	1285.971	1291.781
<b>20.0</b>	864.410	864.038	860.504	859.040	854.993	853.685	852.306	850.801	853.940	855.607
<b>22.5</b>	572.976	572.521	576.598	584.439	586.417	589.425	590.454	591.061	592.033	592.391
<b>25.0</b>	405.770	405.509	408.821	413.504	413.454	414.560	414.571	416.190	419.624	420.990
<b>27.5</b>	289.970	289.791	291.910	293.830	294.163	293.717	293.352	296.299	301.195	297.733
<b>30.0</b>	210.539	210.483	211.123	210.001	208.422	204.731	203.451	207.064	210.426	212.762
<b>32.5</b>	166.382	167.413	168.952	163.768	156.937	149.694	149.643	152.006	153.606	154.317
<b>35.0</b>	127.093	128.208	129.465	124.730	118.584	111.812	111.191	111.691	112.735	113.811
<b>37.5</b>	89.020	89.945	90.659	91.001	91.450	91.646	92.383	93.256	93.982	94.280
<b>40.0</b>	77.010	77.387	77.412	77.181	77.669	78.074	78.382	78.574	78.249	77.862
<b>42.5</b>	64.999	65.132	65.386	65.435	66.274	66.819	67.688	68.462	68.867	69.179
<b>45.0</b>	59.700	59.758	59.833	59.833	60.214	60.300	60.818	61.035	61.257	61.293
<b>47.5</b>	54.401	54.459	54.626	54.886	55.255	55.660	56.221	56.250	56.760	56.822
<b>50.0</b>	55.107	54.973	55.264	55.621	55.890	56.085	56.058	55.382	54.909	53.537
<b>52.5</b>	55.814	55.568	56.229	57.067	57.814	58.619	59.148	59.313	59.542	59.477
<b>55.0</b>	56.520	56.178	57.253	58.603	59.860	61.383	62.530	63.582	64.833	66.501
<b>57.5</b>	63.232	62.754	63.449	64.177	64.995	66.071	66.693	67.828	69.744	73.539
<b>60.0</b>	69.944	69.381	69.821	70.066	70.684	71.189	71.002	71.527	72.687	75.320
<b>62.5</b>	76.656	75.998	76.154	75.869	76.332	76.105	75.176	74.996	75.132	76.109
<b>65.0</b>	83.368	82.606	82.451	81.596	81.922	80.746	79.153	78.024	76.962	76.217
<b>67.5</b>	71.887	71.444	71.845	71.631	72.703	72.669	72.463	72.469	72.443	72.314
<b>70.0</b>	60.407	60.132	60.666	60.407	61.262	61.283	61.259	61.117	61.130	60.958
<b>72.5</b>	48.926	48.820	49.497	49.217	49.842	49.928	50.080	49.757	49.837	49.669
<b>75.0</b>	37.445	37.507	38.335	37.996	38.438	38.600	38.920	38.392	38.563	38.439
<b>77.5</b>	28.084	28.254	29.094	28.983	29.273	29.321	29.679	29.105	29.134	28.854
<b>80.0</b>	18.723	19.015	19.893	20.081	20.316	20.380	20.915	20.584	20.669	20.561
<b>82.5</b>	9.361	9.779	10.686	11.177	11.355	11.455	12.157	12.091	12.240	12.304
<b>85.0</b>	0.000	0.544	1.476	2.272	2.391	2.540	3.401	3.607	3.834	4.072
<b>87.5</b>	0.000	0.265	0.708	1.069	1.076	1.086	1.460	1.481	1.504	1.529
<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>	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
<b>2.5</b>	11186.506	11165.958	11156.569	11148.274	11141.092	11135.043	11130.139	11126.393	11123.813	11122.404
<b>5.0</b>	10216.846	10217.689	10223.709	10234.952	10251.445	10281.444	10238.367	10222.922	10214.790	10213.998
<b>7.5</b>	8351.081	8307.573	8277.857	8262.058	8260.268	8272.544	8298.911	8369.947	8309.274	8369.753
<b>10.0</b>	5704.205	5636.472	5659.499	5654.840	5651.227	5649.636	5649.307	5649.682	5688.607	5633.788
<b>12.5</b>	3392.332	3386.609	3403.959	3436.672	3455.332	3459.080	3452.803	3435.662	3413.685	3416.751
<b>15.0</b>	2044.165	2046.810	2055.245	2053.162	2067.009	2084.145	2075.394	2070.773	2071.313	2066.077
<b>17.5</b>	1294.036	1289.323	1281.788	1278.202	1287.370	1288.657	1283.949	1292.513	1285.922	1284.390
<b>20.0</b>	854.803	856.937	844.026	839.418	836.323	838.615	833.421	831.459	840.813	843.642
<b>22.5</b>	589.914	583.341	576.547	574.841	576.737	579.079	581.274	579.930	586.628	587.825
<b>25.0</b>	417.355	414.326	417.547	418.282	419.878	420.262	419.963	423.421	425.714	426.492
<b>27.5</b>	298.185	300.625	302.740	304.701	305.672	305.364	307.262	308.076	307.559	307.502
<b>30.0</b>	214.472	216.375	217.807	215.845	213.482	216.541	217.733	217.278	218.789	220.590

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**CANDELA TABULATION - (Cont.)**

32.5	154.573	157.446	159.444	160.453	158.700	156.068	155.665	157.679	159.269	159.870
35.0	116.331	119.075	121.108	120.588	117.488	116.225	118.337	120.024	120.872	120.430
37.5	93.571	93.292	92.898	92.469	93.991	94.690	94.480	93.847	93.995	95.539
40.0	77.763	78.207	78.710	79.062	79.304	79.024	78.504	78.688	79.068	78.691
42.5	68.785	68.534	68.274	68.136	68.798	69.171	68.945	68.771	68.222	68.881
45.0	61.362	61.761	61.945	62.046	62.199	62.149	62.131	62.362	62.416	62.356
47.5	56.853	56.934	56.858	56.733	57.185	57.623	57.857	57.993	57.804	57.802
50.0	52.880	53.411	53.859	54.884	55.363	55.215	54.511	55.295	55.494	56.318
52.5	59.055	57.832	56.535	55.080	55.882	56.773	57.860	57.319	56.433	57.836
55.0	67.466	67.142	67.645	67.334	66.050	64.922	63.809	65.556	66.559	65.735
57.5	76.500	77.685	79.839	80.253	79.623	79.703	79.257	78.520	78.843	79.861
60.0	77.042	80.259	85.186	89.671	94.223	94.736	93.567	91.407	90.351	90.705
62.5	76.493	78.664	81.551	84.587	89.261	95.415	99.540	102.286	98.349	96.203
65.0	75.284	75.968	76.849	78.321	81.414	85.188	87.900	91.232	93.219	95.832
67.5	72.048	72.283	71.185	70.999	72.132	73.670	75.428	77.190	78.759	80.453
70.0	60.764	60.835	60.596	60.649	61.072	61.472	62.194	62.881	63.970	64.123
72.5	49.448	49.241	48.889	48.644	48.652	48.762	49.100	49.334	49.626	47.524
75.0	38.105	37.663	37.191	36.537	36.140	36.012	36.196	36.615	36.700	35.395
77.5	28.240	27.433	26.458	24.866	23.614	23.234	23.469	24.088	24.425	24.152
80.0	20.194	19.806	19.282	18.242	17.240	16.241	15.673	15.254	14.784	14.248
82.5	12.221	12.300	12.266	11.799	11.350	10.875	10.693	10.541	10.348	10.101
85.0	4.300	4.876	5.362	5.485	5.588	5.654	5.797	5.925	6.024	6.086
87.5	1.559	1.817	2.039	2.094	2.156	2.226	2.305	2.395	2.497	2.613
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**  
**Angles**

	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	72.5
0.0	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
2.5	11122.168	11123.106	11125.214	11128.484	11132.908	11138.471	11153.924	11146.609	11140.374	11134.926
5.0	10220.543	10257.002	10218.890	10194.887	10176.396	10163.398	10155.855	10153.708	10156.883	10165.283
7.5	8271.733	8226.277	8193.587	8173.766	8166.899	8173.053	8192.278	8195.509	8202.447	8115.000
10.0	5615.704	5598.752	5583.479	5570.642	5581.702	5519.872	5542.660	5498.426	5508.879	5541.219
12.5	3428.586	3430.621	3423.523	3407.010	3380.107	3394.340	3368.771	3371.050	3357.090	3348.091
15.0	2077.660	2079.694	2077.376	2068.157	2047.098	2066.051	2059.350	2059.594	2059.602	2048.361
17.5	1288.689	1298.118	1308.181	1309.114	1323.130	1313.231	1317.432	1318.439	1311.570	1306.294
20.0	841.174	849.187	852.194	851.515	850.766	862.112	870.296	875.350	882.945	874.034
22.5	586.940	589.685	592.224	594.680	593.627	597.737	606.927	614.754	618.472	624.687
25.0	426.386	429.369	429.919	434.454	437.047	438.190	438.603	442.789	448.963	449.827
27.5	310.152	311.546	312.364	314.333	317.573	320.140	322.085	323.344	324.060	325.381
30.0	219.962	220.173	219.685	214.314	217.027	225.340	223.754	222.105	227.700	224.283
32.5	159.928	159.245	159.257	159.454	158.599	157.656	155.102	150.502	156.709	168.781
35.0	121.801	124.333	125.721	123.631	122.102	121.804	120.919	119.756	119.262	124.728
37.5	95.478	95.552	99.094	100.108	97.818	95.359	94.903	95.672	96.520	97.749
40.0	78.878	79.753	79.822	79.729	80.027	80.752	80.986	80.551	79.679	79.297
42.5	69.248	69.014	69.504	69.987	70.182	70.093	69.858	70.293	70.472	70.578
45.0	62.192	62.662	62.967	63.094	62.833	63.076	63.428	63.502	63.262	62.628
47.5	58.284	58.084	57.953	58.316	58.304	58.178	57.992	57.987	58.095	57.959
50.0	56.082	56.091	56.058	55.179	54.982	54.744	55.674	55.183	54.256	53.802
52.5	58.195	58.426	57.451	56.207	56.105	58.011	57.222	55.174	55.650	57.837
55.0	64.814	66.226	64.726	64.427	66.432	65.783	65.031	65.545	66.080	66.674
57.5	80.065	79.136	78.588	79.348	79.883	78.747	78.424	79.013	78.937	77.819
60.0	93.939	93.909	91.961	93.173	90.502	88.459	89.272	91.891	92.705	87.131
62.5	96.588	96.782	99.782	96.907	92.904	91.688	93.823	99.096	94.046	85.913
65.0	93.872	92.138	92.278	90.364	88.697	87.259	89.410	87.788	85.191	81.516
67.5	80.938	82.243	80.814	78.236	76.818	76.823	75.825	75.012	73.520	71.552

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**CANDELA TABULATION - (Cont.)**

<b>70.0</b>	64.006	64.543	64.787	64.543	63.233	62.581	62.168	61.532	60.725	59.408
<b>72.5</b>	46.721	47.569	48.425	48.747	48.784	49.078	48.738	48.167	47.491	47.040
<b>75.0</b>	33.782	33.512	33.174	34.240	35.203	35.855	36.000	35.534	34.900	35.652
<b>77.5</b>	23.805	23.842	23.755	23.592	23.547	23.701	24.340	24.304	24.804	25.422
<b>80.0</b>	14.138	14.531	14.808	15.219	15.683	15.815	15.522	14.918	15.986	16.739
<b>82.5</b>	9.787	9.389	8.884	8.677	8.586	9.140	9.560	9.760	9.889	9.761
<b>85.0</b>	6.100	6.054	5.932	5.975	6.021	6.028	5.986	5.875	5.670	5.702
<b>87.5</b>	2.746	2.899	3.076	3.283	3.533	3.704	3.853	3.965	4.025	4.010
<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>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>	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
<b>2.5</b>	11130.273	11126.423	11123.380	11121.149	11119.733	11119.130	11119.341	11109.436	11100.366	11092.153
<b>5.0</b>	10178.797	10213.793	10196.156	10183.135	10174.214	10169.412	10168.738	10145.479	10126.455	10111.765
<b>7.5</b>	8088.820	8077.249	8080.465	8095.580	8064.808	8049.015	8048.337	8017.195	8001.390	7999.185
<b>10.0</b>	5491.510	5463.755	5452.437	5458.376	5463.363	5436.767	5429.850	5393.734	5376.973	5334.007
<b>12.5</b>	3345.797	3331.383	3305.989	3294.937	3299.373	3283.650	3277.127	3257.563	3248.159	3224.602
<b>15.0</b>	2032.887	2022.421	2005.082	1984.210	1974.257	1965.306	1958.434	1950.574	1946.315	1944.517
<b>17.5</b>	1296.780	1302.192	1297.022	1294.619	1295.082	1297.495	1295.025	1288.929	1279.765	1272.971
<b>20.0</b>	869.806	862.190	864.980	869.337	872.658	878.514	877.598	867.969	860.049	854.049
<b>22.5</b>	621.659	622.253	618.421	617.963	613.874	614.924	613.247	612.466	611.366	613.336
<b>25.0</b>	452.101	452.824	453.442	452.842	452.057	452.166	453.105	452.329	451.821	451.820
<b>27.5</b>	324.473	323.408	322.575	320.725	319.630	318.697	329.030	319.477	320.685	321.467
<b>30.0</b>	218.284	216.692	217.256	217.647	218.128	217.923	230.851	218.695	219.718	219.552
<b>32.5</b>	167.519	165.346	162.712	160.038	158.394	156.935	157.993	157.085	158.838	161.455
<b>35.0</b>	127.700	125.785	123.981	122.379	121.578	121.262	120.813	121.493	122.291	123.589
<b>37.5</b>	99.589	97.796	95.456	93.933	92.767	92.387	92.552	93.028	93.868	95.164
<b>40.0</b>	79.542	79.642	79.795	79.732	79.916	80.020	80.542	80.761	80.971	81.432
<b>42.5</b>	70.276	69.586	69.065	68.447	68.201	68.063	68.531	68.771	69.445	70.497
<b>45.0</b>	62.694	62.380	62.035	61.771	61.962	61.950	62.173	62.570	63.048	63.606
<b>47.5</b>	57.852	57.690	56.988	56.269	56.198	55.957	55.814	56.567	57.090	57.757
<b>50.0</b>	54.110	55.844	56.362	55.968	55.682	55.355	55.343	56.061	56.505	57.200
<b>52.5</b>	59.317	59.633	58.991	57.567	55.948	55.003	54.872	55.650	56.734	58.434
<b>55.0</b>	66.534	64.993	62.654	59.812	56.462	54.810	54.401	55.319	57.294	60.084
<b>57.5</b>	76.179	71.685	67.384	64.547	62.364	61.296	61.113	61.665	62.918	64.547
<b>60.0</b>	79.695	74.585	71.097	69.518	68.532	67.818	67.825	68.169	68.911	69.518
<b>62.5</b>	79.364	75.599	73.627	73.581	74.185	74.118	74.536	74.604	74.339	73.581
<b>65.0</b>	76.343	73.954	74.286	76.166	79.070	80.255	81.248	80.834	79.077	76.143
<b>67.5</b>	69.514	69.048	70.392	69.774	69.796	68.660	68.531	69.011	69.874	69.774
<b>70.0</b>	58.464	58.465	58.173	57.804	57.377	56.210	55.814	56.554	57.450	57.804
<b>72.5</b>	47.120	46.978	46.685	46.038	44.843	43.784	43.097	44.301	45.216	46.033
<b>75.0</b>	36.166	35.993	35.366	34.150	33.061	31.392	30.380	32.084	33.061	34.656
<b>77.5</b>	25.581	25.498	24.857	24.363	24.520	24.163	23.315	24.674	24.520	24.614
<b>80.0</b>	16.877	16.185	16.423	17.755	17.815	17.275	16.250	17.443	17.943	18.283
<b>82.5</b>	9.839	9.917	10.814	11.645	11.693	10.512	9.185	10.512	11.976	11.823
<b>85.0</b>	5.667	5.880	6.513	7.121	6.956	4.894	2.120	4.448	7.026	7.404
<b>87.5</b>	3.882	3.883	3.874	4.200	4.452	2.997	1.060	2.997	4.494	4.272
<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>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>	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
<b>2.5</b>	11084.817	11078.377	11072.850	11068.252	11064.594	11057.872	11051.034	11034.766	11019.986	11006.740

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

**CANDELA TABULATION - (Cont.)**

5.0	10101.497	10079.085	10036.420	9999.222	9967.685	9941.983	9922.270	9908.680	9901.326	9900.297
7.5	7952.620	7916.271	7894.990	7888.617	7944.060	7903.251	7862.089	7803.738	7759.541	7729.559
10.0	5291.157	5263.936	5251.136	5246.373	5194.659	5149.456	5151.829	5097.312	5102.267	5090.939
12.5	3214.299	3215.424	3205.745	3184.549	3167.574	3152.917	3128.469	3129.540	3095.949	3094.963
15.0	1953.236	1958.869	1957.922	1961.151	1961.574	1953.729	1944.713	1932.796	1918.063	1921.314
17.5	1268.549	1265.629	1251.282	1252.977	1251.997	1251.473	1245.982	1237.784	1237.092	1227.940
20.0	845.735	838.150	841.660	843.062	843.983	840.032	833.735	826.225	815.782	810.653
22.5	611.791	612.353	611.216	610.005	604.641	598.456	592.507	586.056	582.057	582.169
25.0	450.957	450.557	450.986	448.842	446.614	442.423	438.760	437.670	435.960	433.178
27.5	322.874	324.629	326.350	327.505	326.871	326.953	326.585	325.382	323.292	320.680
30.0	219.736	220.233	223.270	229.951	235.322	238.619	239.613	236.836	233.855	233.229
32.5	164.555	167.986	171.283	173.528	175.237	176.063	175.451	172.230	173.900	174.726
35.0	125.557	127.801	129.884	132.329	136.636	140.417	133.229	133.340	138.415	138.440
37.5	97.503	100.032	102.670	105.906	109.348	105.584	102.633	103.993	107.026	107.186
40.0	81.915	82.218	82.290	82.464	84.036	85.377	86.633	86.746	86.405	86.498
42.5	71.178	72.354	72.688	73.371	73.535	74.018	73.616	74.234	75.166	75.329
45.0	64.126	64.550	64.732	64.774	65.716	66.230	66.346	66.622	66.554	66.753
47.5	58.649	59.310	59.560	59.770	60.024	60.042	60.334	60.834	60.909	60.962
50.0	57.497	57.086	55.458	55.295	55.875	56.700	57.306	56.736	56.978	57.264
52.5	59.673	60.315	59.861	58.621	56.473	55.796	57.891	58.667	57.108	56.819
55.0	62.885	64.785	66.138	66.543	65.838	64.995	64.163	64.688	65.135	63.045
57.5	67.307	70.531	74.935	76.827	77.340	77.266	76.360	75.890	76.403	75.753
60.0	70.700	73.557	78.533	85.058	90.038	89.289	86.121	84.730	85.879	87.620
62.5	73.167	74.928	78.282	83.871	91.593	95.748	90.513	88.112	88.412	90.967
65.0	74.031	73.562	75.243	80.049	82.985	85.293	87.237	84.813	85.184	85.647
67.5	70.395	68.917	68.999	70.491	71.964	73.456	74.757	76.060	74.599	75.005
70.0	58.362	58.512	58.477	58.761	59.728	60.974	61.592	61.636	61.684	62.329
72.5	46.701	47.233	47.003	46.526	47.369	47.848	48.089	48.105	47.663	47.425
75.0	35.826	36.184	35.949	35.801	34.913	35.275	35.634	35.346	34.522	33.437
77.5	25.415	25.570	25.974	25.676	25.036	24.569	24.466	23.654	23.317	23.287
80.0	16.689	16.824	17.389	17.253	16.576	15.607	15.898	16.007	15.846	15.474
82.5	11.342	10.591	10.522	10.372	10.317	10.042	9.746	9.381	8.996	9.204
85.0	6.949	6.298	5.927	5.789	5.696	5.995	6.230	6.360	6.374	6.298
87.5	3.874	3.883	3.890	4.137	4.305	4.422	4.489	4.213	3.872	3.441
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	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
2.5	10995.065	10984.995	10976.559	10969.778	10964.669	10961.244	10959.506	10959.456	10961.086	10964.385
5.0	9905.659	9903.057	9870.768	9846.372	9829.921	9821.449	9820.962	9849.282	9808.079	9783.523
7.5	7713.830	7712.361	7725.139	7731.271	7707.996	7739.319	7646.963	7601.308	7571.390	7557.200
10.0	5078.437	5063.662	5045.764	5024.158	5038.807	4992.911	4976.670	4955.932	4931.416	4904.098
12.5	3088.686	3078.538	3059.242	3030.216	2963.659	3012.978	3019.270	3018.168	3010.337	2980.832
15.0	1913.981	1902.770	1890.241	1869.681	1860.923	1851.009	1850.208	1851.769	1838.999	1830.175
17.5	1225.550	1213.940	1204.872	1199.280	1197.962	1191.950	1192.961	1187.868	1176.336	1158.956
20.0	814.497	810.684	801.651	801.210	796.136	783.253	784.866	786.792	781.146	772.087
22.5	579.376	575.694	566.618	569.199	566.226	558.148	558.701	555.549	551.772	546.598
25.0	427.986	428.939	425.072	423.025	420.344	417.171	413.668	412.964	410.755	407.530
27.5	318.462	317.896	316.312	313.094	312.200	311.190	308.797	303.716	305.272	303.558
30.0	232.923	231.018	230.763	230.717	228.931	228.026	227.462	225.507	222.058	222.672
32.5	171.877	171.614	172.388	173.761	175.663	174.521	171.015	170.494	174.686	177.699
35.0	136.627	135.853	136.286	137.683	138.936	139.250	136.641	132.907	133.342	137.390
37.5	107.550	105.931	107.496	108.069	106.743	107.958	109.127	108.118	106.392	103.942
40.0	87.404	87.724	86.868	87.071	88.125	88.086	87.632	87.757	88.460	88.782

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

42.5	75.070	74.924	75.342	75.214	74.694	75.669	76.003	76.233	76.018	75.650
45.0	66.976	66.991	66.632	67.139	67.357	67.329	67.070	67.278	67.562	67.676
47.5	60.915	61.234	61.568	61.526	61.563	61.558	61.299	61.049	60.637	60.506
50.0	57.860	57.560	57.751	58.601	58.303	57.830	56.673	57.071	57.052	56.777
52.5	57.640	58.366	58.254	58.521	57.687	58.182	58.162	56.964	55.922	54.884
55.0	63.127	64.485	63.492	63.788	64.423	63.364	61.875	62.168	62.510	62.774
57.5	74.815	75.007	75.508	74.707	73.369	72.826	72.871	72.697	71.947	71.471
60.0	86.182	87.464	87.068	83.700	82.582	82.792	83.639	83.664	82.334	78.144
62.5	92.802	90.047	89.603	88.539	89.356	91.537	88.458	84.557	79.359	75.316
65.0	86.767	86.394	87.532	88.621	85.540	83.244	80.009	77.457	74.187	71.470
67.5	76.983	78.135	76.477	75.786	73.883	72.234	70.609	69.118	67.823	66.709
70.0	62.371	62.181	61.604	61.691	61.611	60.705	60.343	59.764	59.191	58.249
72.5	47.143	46.590	46.136	47.043	49.045	48.675	48.451	48.078	47.942	47.520
75.0	32.581	33.391	33.934	35.437	36.641	36.620	36.382	36.305	36.485	36.636
77.5	23.704	24.041	24.193	24.569	24.831	24.663	24.410	24.463	24.979	26.020
80.0	15.243	15.114	14.817	14.929	15.420	15.964	16.692	17.480	18.451	19.244
82.5	9.444	9.898	10.252	10.527	10.740	10.967	11.439	11.893	12.348	12.636
85.0	6.192	6.278	6.294	6.254	6.169	6.078	6.283	6.452	6.372	6.144
87.5	3.076	2.899	2.746	2.613	2.497	2.399	2.539	2.671	2.587	2.456
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	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014	11415.014
2.5	10969.333	10975.909	10995.213	10986.230	10979.636	10974.065	10969.535	10966.060	10963.656	10962.335
5.0	9765.811	9754.901	9750.725	9753.192	9762.189	9777.579	9799.207	9847.887	9786.330	9786.026
7.5	7558.687	7575.760	7608.288	7564.235	7593.998	7569.196	7559.286	7564.424	7584.746	7612.679
10.0	4874.755	4841.915	4834.258	4852.212	4875.269	4904.111	4886.569	4882.133	4891.930	4917.109
12.5	2933.233	2901.763	2897.009	2896.991	2900.382	2906.343	2916.467	2908.101	2890.815	2882.804
15.0	1819.246	1828.526	1824.543	1821.088	1827.712	1810.379	1803.694	1801.559	1785.540	1768.194
17.5	1159.395	1168.252	1174.321	1173.001	1167.803	1164.177	1142.457	1157.937	1167.177	1160.374
20.0	775.258	780.225	779.169	780.213	777.528	770.956	767.433	761.437	767.663	769.826
22.5	543.902	544.989	546.299	547.154	547.077	545.591	543.474	541.459	538.137	536.005
25.0	403.495	396.208	397.336	397.679	396.520	395.158	394.115	393.915	392.866	392.864
27.5	301.199	297.425	292.561	290.351	292.501	290.910	290.534	291.168	291.916	291.897
30.0	222.632	221.953	219.733	217.508	216.267	214.625	213.093	215.763	218.630	218.517
32.5	169.027	165.080	165.659	165.349	166.240	172.225	176.789	179.972	177.287	174.428
35.0	137.029	132.539	130.952	128.875	126.141	132.630	139.464	143.704	140.021	136.837
37.5	105.372	106.238	106.950	106.606	105.182	104.870	106.365	105.269	103.063	101.208
40.0	88.644	88.094	87.277	86.861	86.990	86.944	86.643	86.227	85.807	85.448
42.5	75.989	76.253	76.410	76.424	76.144	75.254	74.302	73.564	72.888	71.967
45.0	67.651	67.487	67.127	66.780	66.756	66.389	65.730	65.378	65.116	64.600
47.5	60.803	60.898	60.778	60.542	60.276	60.015	59.607	58.961	58.390	57.886
50.0	56.174	55.759	55.177	55.346	56.127	56.678	57.023	56.930	56.573	56.242
52.5	56.132	57.065	57.576	57.898	57.662	57.347	57.031	56.591	55.899	55.196
55.0	62.887	62.595	61.932	61.058	59.839	58.352	57.320	56.327	55.343	54.193
57.5	70.452	69.093	67.092	64.513	62.671	60.769	60.087	59.560	59.203	58.558
60.0	74.110	71.083	68.615	66.591	65.474	64.192	64.052	63.944	63.839	63.438
62.5	72.493	70.571	69.310	68.323	67.882	67.586	67.841	68.277	68.396	68.289
65.0	69.963	69.289	69.395	69.570	69.988	70.585	71.475	72.485	72.881	73.115
67.5	66.610	67.293	67.267	66.896	66.454	66.019	65.776	65.658	64.855	64.435
70.0	57.648	57.295	57.053	56.812	56.614	56.374	56.090	55.960	54.947	54.665
72.5	47.317	47.167	46.905	46.701	46.708	46.759	46.394	46.288	45.078	44.845
75.0	36.939	37.004	36.813	36.567	36.746	37.167	36.691	36.637	35.239	35.014
77.5	27.158	27.713	27.862	27.741	27.964	28.534	28.128	28.154	27.134	26.916

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

<b>80.0</b>	19.831	20.150	20.220	20.001	19.893	20.162	19.864	19.848	19.147	18.922
<b>82.5</b>	12.650	12.654	12.585	12.319	11.873	11.861	11.618	11.536	11.122	10.938
<b>85.0</b>	5.571	5.205	4.956	4.672	3.885	3.587	3.384	3.218	2.826	2.826
<b>87.5</b>	2.138	1.991	1.949	1.909	1.564	1.481	1.463	1.447	1.435	1.425
<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>	11415.014	11415.014	11415.014
<b>2.5</b>	10962.108	10962.984	10964.970
<b>5.0</b>	9785.720	9785.413	9785.105
<b>7.5</b>	7558.917	7520.254	7496.909
<b>10.0</b>	4924.070	4871.085	4837.092
<b>12.5</b>	2891.958	2850.572	2821.607
<b>15.0</b>	1739.231	1738.955	1723.874
<b>17.5</b>	1158.448	1153.244	1136.485
<b>20.0</b>	769.096	769.066	760.553
<b>22.5</b>	523.897	528.283	539.770
<b>25.0</b>	389.887	388.223	394.348
<b>27.5</b>	290.798	289.678	292.594
<b>30.0</b>	218.298	217.876	218.663
<b>32.5</b>	172.040	170.444	170.091
<b>35.0</b>	134.861	133.737	133.059
<b>37.5</b>	100.368	99.433	98.911
<b>40.0</b>	85.311	85.425	84.781
<b>42.5</b>	71.260	71.114	70.651
<b>45.0</b>	64.232	64.447	63.939
<b>47.5</b>	57.519	57.635	57.227
<b>50.0</b>	55.968	55.959	55.578
<b>52.5</b>	54.683	54.298	53.930
<b>55.0</b>	53.427	52.651	52.281
<b>57.5</b>	58.233	57.822	57.403
<b>60.0</b>	63.277	63.036	62.526
<b>62.5</b>	68.302	68.239	67.648
<b>65.0</b>	73.477	73.477	72.770
<b>67.5</b>	63.892	63.602	62.702
<b>70.0</b>	53.973	53.649	52.635
<b>72.5</b>	44.052	43.703	42.567
<b>75.0</b>	33.912	33.705	32.499
<b>77.5</b>	26.101	25.627	24.551
<b>80.0</b>	18.122	17.503	16.603
<b>82.5</b>	10.147	9.377	8.655
<b>85.0</b>	2.113	1.233	0.707
<b>87.5</b>	1.063	0.618	0.354
<b>90.0</b>	0.000	0.000	0.000



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

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1413.96	N.A.	73.20
0-30	1619.16	N.A.	83.80
0-40	1702.72	N.A.	88.10
0-60	1811.44	N.A.	93.70
0-80	1925.48	N.A.	99.60
0-90	1932.88	N.A.	100.00
10-90	1129.68	N.A.	58.40
20-40	288.76	N.A.	14.90
20-50	339.35	N.A.	17.60
40-70	183.92	N.A.	9.50
60-80	114.05	N.A.	5.90
70-80	38.84	N.A.	2.00
80-90	7.39	N.A.	0.40
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	1932.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	803.19
10-20	610.77
20-30	205.20
30-40	83.56
40-50	50.59
50-60	58.13
60-70	75.21
70-80	38.84
80-90	7.39
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-NS-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	121	121	121	121	118	118	118	118	113	113	113	108	108	108	103	103	103	101
1	115	113	110	108	113	111	108	107	107	105	103	103	101	100	99	98	97	96
2	111	106	103	99	108	104	101	98	101	99	96	98	96	94	96	94	92	91
3	106	101	96	93	104	99	95	92	97	93	91	94	92	89	92	90	88	87
4	103	96	92	88	101	95	91	87	93	89	86	91	88	85	89	87	84	83
5	99	92	88	84	98	91	87	84	90	86	83	88	85	82	87	84	82	80
6	96	89	84	81	95	88	84	81	87	83	80	86	82	79	84	81	79	78
7	93	86	81	78	92	85	81	78	84	80	77	83	80	77	82	79	77	76
8	91	84	79	76	90	83	79	76	82	78	75	81	78	75	80	77	75	74
9	89	81	77	74	88	81	76	74	80	76	73	79	76	73	78	75	73	72
10	86	79	75	72	86	79	75	72	78	74	72	77	74	71	77	74	71	70

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

**UGR TABLE - CORRECTED**

Reflectances

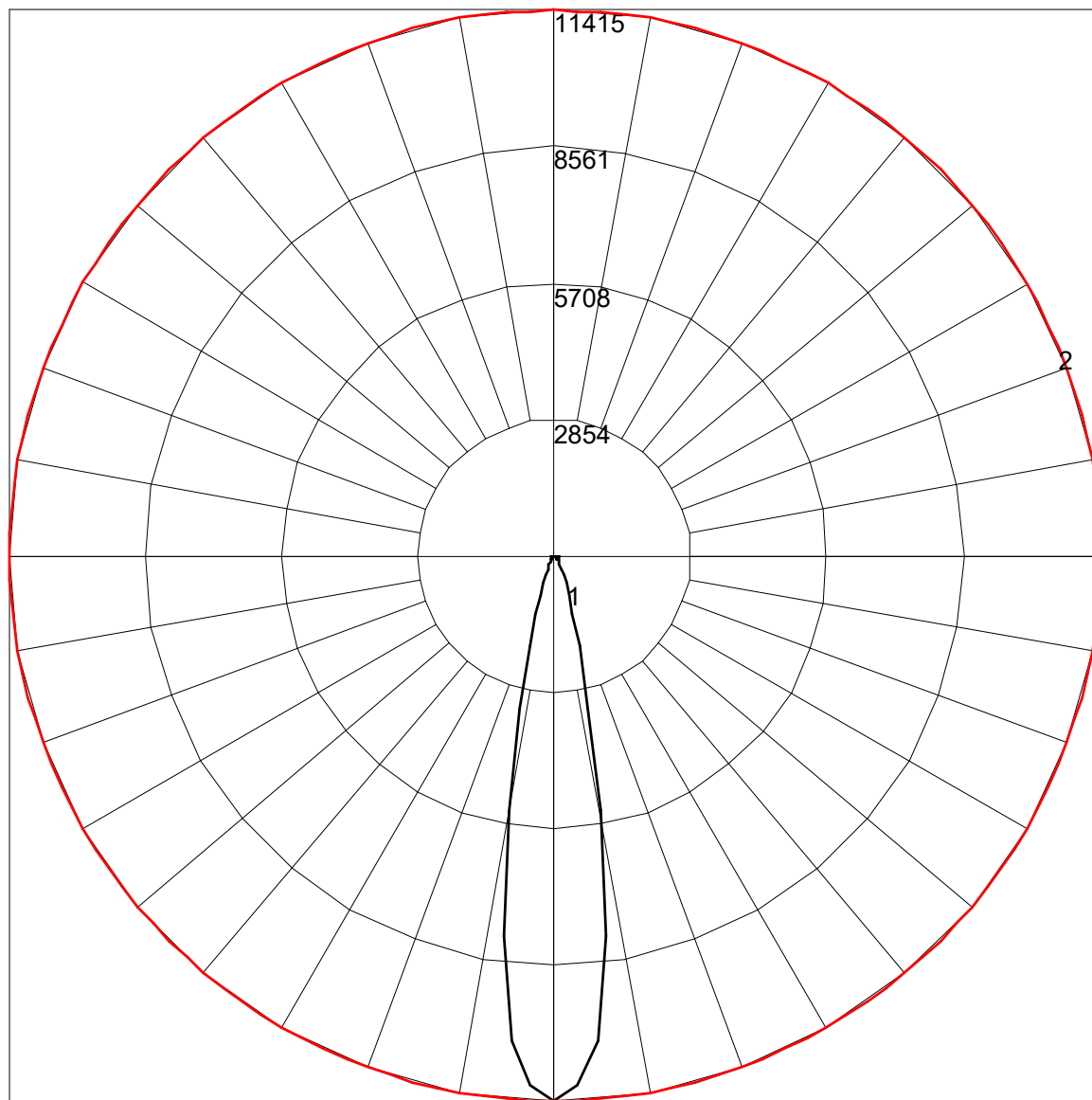
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size      UGR Viewed Crosswise

X=2H	Y=2H	16.5	17.9	16.8	18.2	18.5	UGR Viewed Endwise				
	3H	19.4	20.8	19.8	21.1	21.5	5.9	7.3	6.2	7.6	7.9
	4H	20.2	21.5	20.6	21.8	22.2	6.3	7.6	6.7	8.0	8.3
	6H	20.6	21.8	21.0	22.2	22.6	6.6	7.8	7.0	8.2	8.6
	8H	20.8	21.9	21.2	22.3	22.7	7.0	8.2	7.4	8.6	9.0
	12H	20.7	21.8	21.2	22.2	22.6	7.3	8.4	7.7	8.8	9.2
							7.5	8.5	7.9	8.9	9.3
4H	2H	16.8	18.0	17.2	18.4	18.8	11.3	12.5	11.7	12.9	13.2
	3H	19.9	21.0	20.4	21.4	21.8	11.8	12.9	12.2	13.3	13.7
	4H	20.9	21.8	21.3	22.2	22.7	12.0	12.9	12.4	13.3	13.8
	6H	21.4	22.3	21.8	22.7	23.2	12.1	13.0	12.5	13.4	13.9
	8H	21.5	22.3	22.0	22.8	23.2	12.2	13.0	12.7	13.5	13.9
	12H	21.5	22.2	22.0	22.7	23.2	12.3	13.1	12.8	13.6	14.0
8H	4H	20.8	21.6	21.3	22.1	22.5	13.3	14.1	13.8	14.6	15.0
	6H	21.5	22.2	22.0	22.6	23.1	13.6	14.2	14.1	14.7	15.2
	8H	21.6	22.2	22.1	22.8	23.2	13.7	14.3	14.2	14.8	15.3
	12H	21.7	22.2	22.2	22.7	23.3	14.0	14.5	14.5	15.0	15.5
12H	4H	20.8	21.5	21.2	22.0	22.4	13.5	14.3	14.0	14.7	15.2
	6H	21.4	22.1	22.0	22.5	23.1	13.9	14.5	14.4	15.0	15.5
	8H	21.7	22.2	22.2	22.7	23.2	14.1	14.6	14.6	15.1	15.7

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 11415.014 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)