



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-22-L30-835-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18882.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 02-JAN-2020

[MANUFAC] WILLIAMS LINEAR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2-56LED 22" ARRAYS-SERIES 2x2' RECESSED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/DEEP ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT2-22-L30-835-D-DIM-UNV

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Office, Direct

[_SEARCH_MOUNTING] Ceiling, Recessed

[_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3119
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	29.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.76 ft
Luminous Width (90-270)	1.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3284	3522	3767
55	2876	3105	3362
65	2449	2747	2996
75	1949	2334	2639
85	964	1447	1266

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	1275.540	1275.540	1275.540	1275.540	1275.540
5	1272.503	1266.429	1267.947	1266.429	1266.429
10	1242.133	1242.133	1245.170	1246.688	1248.207
15	1193.541	1198.096	1207.207	1213.281	1219.355
20	1135.838	1141.912	1157.097	1170.763	1181.393
25	1058.394	1070.542	1091.801	1108.505	1123.690
30	968.803	980.951	1015.876	1037.135	1049.283
35	876.174	883.767	926.285	952.099	968.803
40	774.435	783.546	824.545	853.397	870.100
45	671.177	683.325	719.769	751.657	769.879
50	570.956	584.622	618.029	643.844	665.103
55	476.809	487.438	514.771	536.030	557.289
60	385.699	400.884	423.661	446.439	460.105
65	299.144	318.885	335.588	350.773	365.958
70	218.664	244.478	253.589	267.256	282.441
75	145.776	159.442	174.627	194.368	197.405
80	78.962	92.628	103.258	112.369	109.332
85	24.296	31.888	36.444	39.481	31.888
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	460.45	N.A.	14.80
0-30	962.09	N.A.	30.80
0-40	1537.23	N.A.	49.30
0-60	2554.42	N.A.	81.90
0-80	3073.53	N.A.	98.50
0-90	3119.4	N.A.	100.00
10-90	2999.13	N.A.	96.10
20-40	1076.78	N.A.	34.50
20-50	1631.63	N.A.	52.30
40-70	1350.43	N.A.	43.30
60-80	519.12	N.A.	16.60
70-80	185.87	N.A.	6.00
80-90	45.87	N.A.	1.50
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	3119.4	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	120.28
10-20	340.17
20-30	501.64
30-40	575.14
40-50	554.85
50-60	462.34
60-70	333.24
70-80	185.87
80-90	45.87
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

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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	181	181	181	181	177	177	177	177	169	169	169	162	162	162	155	155	155	152
1	166	159	153	147	162	156	150	145	149	145	140	143	140	136	138	135	132	129
2	152	140	130	121	148	137	128	120	131	124	117	127	120	115	122	117	112	109
3	139	123	111	102	135	121	110	101	117	107	99	112	104	98	109	102	96	93
4	128	110	97	87	124	108	96	87	104	94	85	101	92	84	97	90	83	80
5	118	99	85	76	114	97	85	75	94	83	74	91	81	74	88	80	73	70
6	109	89	76	66	106	88	75	66	85	74	66	82	73	65	80	71	64	61
7	101	81	68	59	99	80	68	59	78	66	58	75	65	58	73	64	58	55
8	94	74	62	53	92	73	61	53	71	60	52	69	59	52	68	59	52	49
9	88	68	56	48	86	67	56	48	66	55	47	64	54	47	63	54	47	44
10	83	63	51	44	81	62	51	43	61	50	43	59	50	43	58	49	43	40

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UGR TABLE - CORRECTED

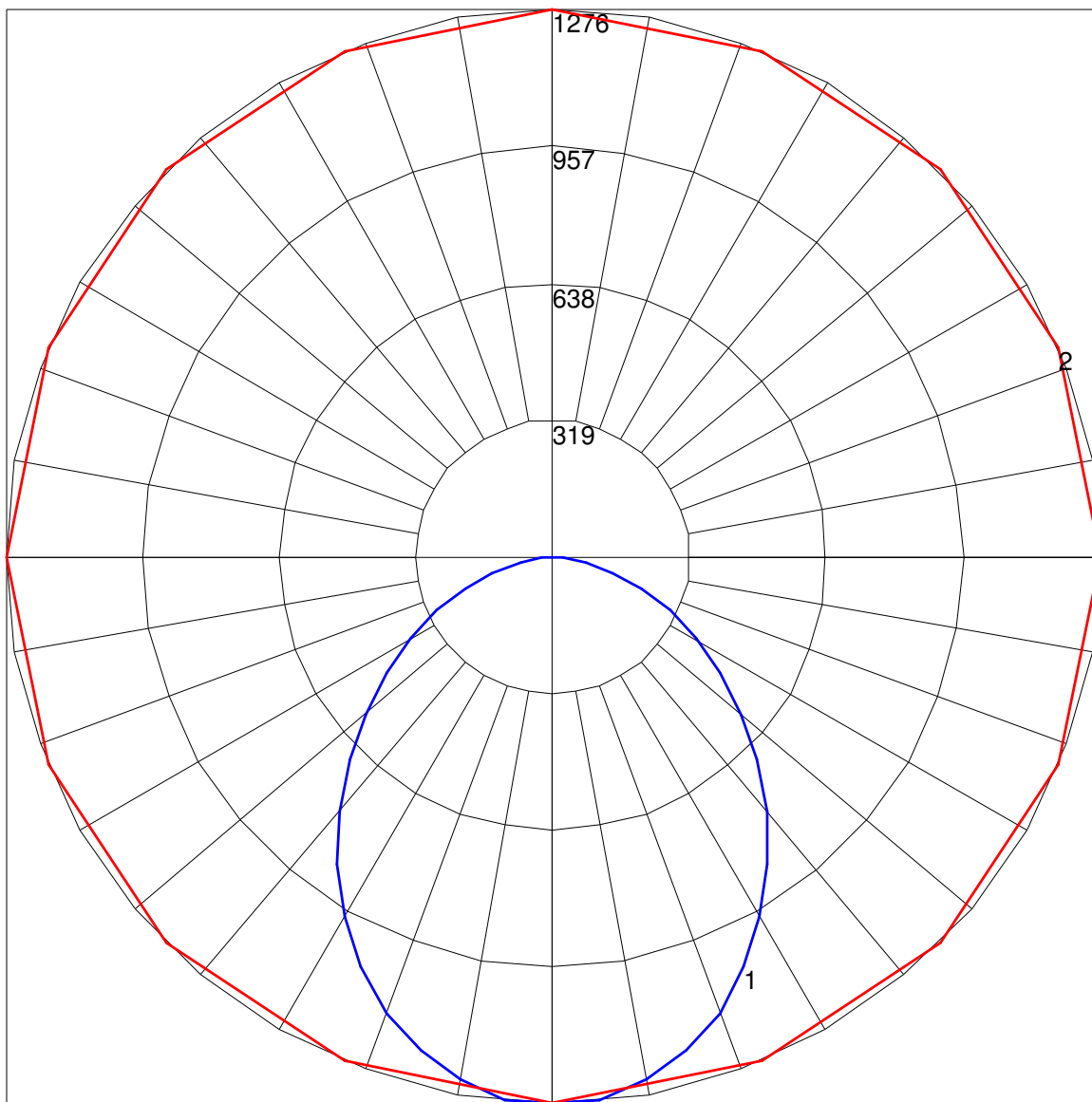
Reflectances

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	13.9	15.5	14.2	15.8	16.1	14.7	16.3	15.0	16.6	16.9
	3H	15.5	16.9	15.9	17.2	17.6	16.4	17.8	16.8	18.2	18.5
	4H	16.0	17.4	16.4	17.7	18.1	17.1	18.4	17.5	18.8	19.1
	6H	16.4	17.6	16.8	18.0	18.4	17.5	18.8	18.0	19.1	19.5
	8H	16.4	17.6	16.9	18.0	18.4	17.7	18.8	18.1	19.2	19.6
	12H	16.5	17.6	16.9	18.0	18.4	17.7	18.8	18.1	19.2	19.7
4H	2H	14.6	15.9	15.0	16.2	16.6	15.2	16.5	15.6	16.9	17.2
	3H	16.4	17.5	16.8	17.9	18.3	17.1	18.3	17.6	18.7	19.1
	4H	17.0	18.0	17.5	18.5	18.9	18.0	19.0	18.4	19.4	19.8
	6H	17.5	18.4	17.9	18.8	19.3	18.6	19.4	19.0	19.9	20.3
	8H	17.6	18.4	18.1	18.9	19.4	18.7	19.5	19.2	20.0	20.5
	12H	17.7	18.4	18.2	18.9	19.4	18.8	19.5	19.3	20.0	20.5
8H	4H	17.4	18.2	17.8	18.6	19.1	18.2	19.0	18.7	19.5	19.9
	6H	18.0	18.6	18.5	19.1	19.6	18.9	19.6	19.4	20.1	20.6
	8H	18.1	18.8	18.6	19.3	19.7	19.1	19.8	19.7	20.3	20.8
	12H	18.3	18.8	18.8	19.3	19.8	19.3	19.8	19.8	20.3	20.9
12H	4H	17.4	18.2	17.9	18.6	19.1	18.2	19.0	18.7	19.4	19.9
	6H	18.0	18.6	18.5	19.1	19.6	19.0	19.6	19.5	20.0	20.6
	8H	18.3	18.8	18.8	19.3	19.9	19.2	19.8	19.7	20.3	20.8

Maximum UGR = 20.9

POLAR GRAPH



Maximum Candela = 1275.54 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)