



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-L40-935-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19255.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE]11-JAN-2023

[MANUFAC]WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 2x2' RECESSED LUMINAIRE

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] AT3-22-L40-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3500K CCT

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] Indoor, Architectural, Commercial, Office, Direct

[SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3237
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	30.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.76 ft
Luminous Width (90-270)	1.76 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3325	3699	4026
55	2899	3417	3715
65	2436	3088	3466
75	1978	2893	3063
85	1327	1137	821

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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	1260.870	1260.870	1260.870	1260.870	1260.870
5	1260.870	1256.112	1254.526	1254.526	1252.940
10	1229.150	1229.150	1229.150	1235.494	1237.080
15	1183.156	1187.914	1194.258	1208.532	1213.290
20	1122.888	1132.404	1148.264	1170.468	1179.984
25	1042.002	1059.448	1094.340	1124.474	1138.748
30	953.186	976.976	1022.970	1067.378	1078.480
35	862.784	889.746	935.740	1000.766	1005.524
40	769.210	788.242	843.752	908.778	915.122
45	677.222	685.152	753.350	799.344	819.962
50	580.476	586.820	661.362	693.082	721.630
55	478.972	496.418	564.616	591.578	613.782
60	385.398	412.360	469.456	496.418	512.278
65	296.582	336.232	375.882	404.430	421.876
70	215.696	260.104	291.824	317.200	328.302
75	147.498	185.562	215.696	225.212	228.384
80	87.230	112.606	128.466	91.988	84.058
85	33.306	36.478	28.548	23.790	20.618
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	456.64	N.A.	14.10
0-30	959.27	N.A.	29.60
0-40	1545.97	N.A.	47.80
0-60	2615.73	N.A.	80.80
0-80	3192.39	N.A.	98.60
0-90	3236.62	N.A.	100.00
10-90	3117.56	N.A.	96.30
20-40	1089.33	N.A.	33.70
20-50	1665.98	N.A.	51.50
40-70	1436.14	N.A.	44.40
60-80	576.66	N.A.	17.80
70-80	210.27	N.A.	6.50
80-90	44.23	N.A.	1.40
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	3236.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	119.06
10-20	337.58
20-30	502.62
30-40	586.71
40-50	576.65
50-60	493.10
60-70	366.39
70-80	210.27
80-90	44.23
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	155	155	155	155	151	151	151	151	145	145	145	138	138	138	133	133	133	130
1	142	136	131	126	139	133	128	124	128	124	120	123	119	116	118	115	113	110
2	130	119	110	103	126	117	109	102	112	105	100	108	102	97	104	99	95	92
3	118	105	95	86	115	103	93	86	99	91	84	95	88	83	92	86	81	78
4	109	93	82	74	106	92	81	73	88	79	72	85	77	71	82	76	70	67
5	100	84	72	64	97	82	71	63	79	70	63	77	68	62	74	67	61	58
6	92	75	64	56	90	74	63	56	72	62	55	70	61	55	68	60	54	51
7	86	69	57	49	84	67	57	49	65	56	49	64	55	49	62	54	48	46
8	80	63	52	44	78	62	51	44	60	51	44	58	50	44	57	49	43	41
9	75	58	47	40	73	57	47	40	55	46	40	54	45	39	53	45	39	37
10	70	53	43	36	69	53	43	36	51	42	36	50	42	36	49	41	36	33

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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

X=2H	Y=2H	14.4	16.0	14.8	16.4	16.7	15.8	17.4	16.2	17.7	18.0
	3H	16.0	17.5	16.4	17.8	18.2	17.7	19.1	18.1	19.5	19.8
	4H	16.6	18.0	17.0	18.3	18.7	18.4	19.8	18.8	20.1	20.5
	6H	17.0	18.3	17.5	18.7	19.1	18.7	20.0	19.1	20.3	20.7
	8H	17.2	18.4	17.6	18.8	19.1	18.8	20.0	19.2	20.4	20.8
	12H	17.2	18.4	17.7	18.8	19.2	18.8	19.9	19.2	20.3	20.7

UGR Viewed Endwise

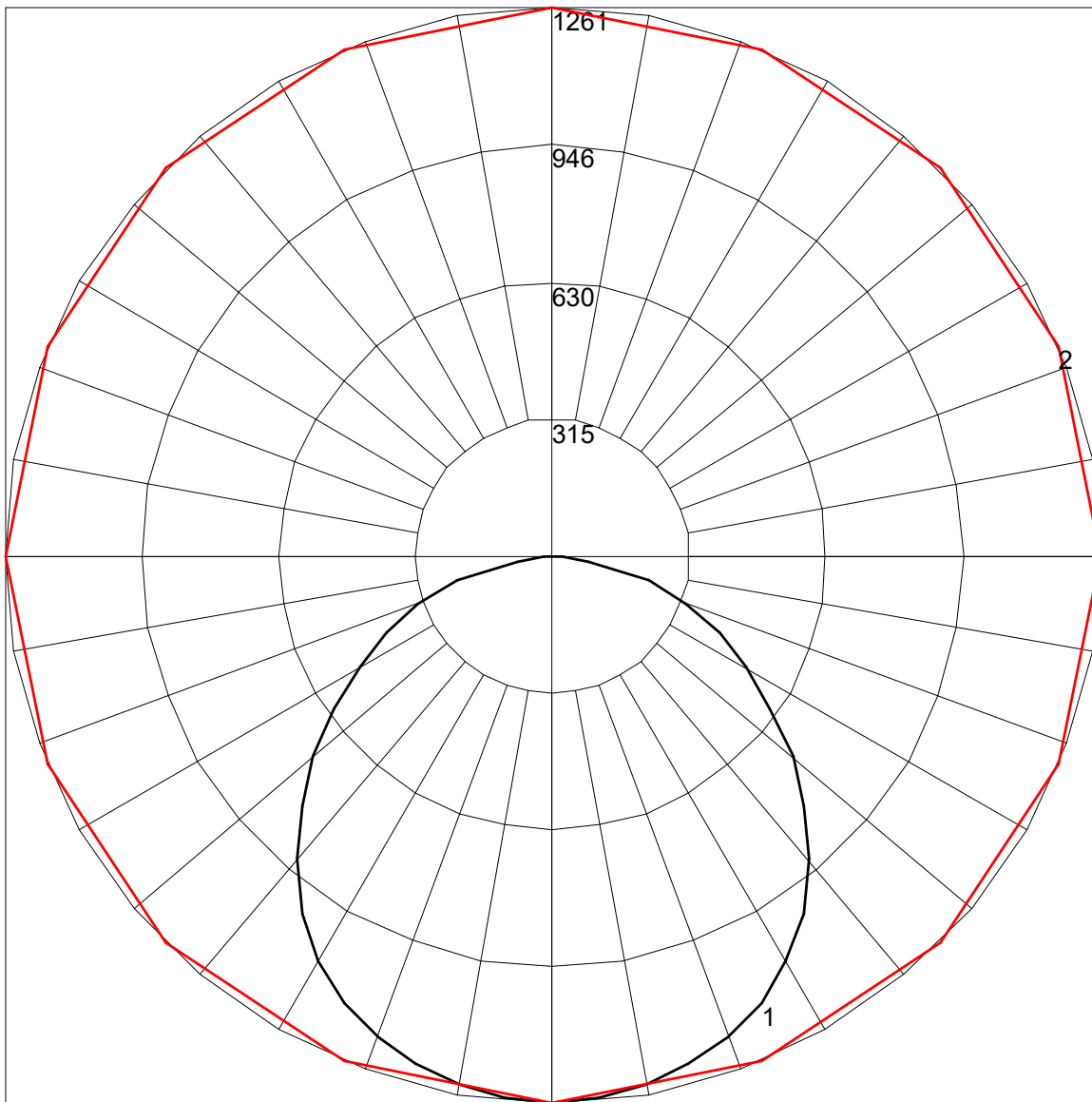
4H	2H	15.3	16.6	15.7	17.0	17.4	16.3	17.7	16.7	18.0	18.4
	3H	17.2	18.3	17.6	18.7	19.1	18.5	19.6	18.9	20.0	20.4
	4H	17.9	18.9	18.3	19.3	19.7	19.3	20.3	19.7	20.8	21.2
	6H	18.4	19.3	18.9	19.7	20.2	19.7	20.6	20.2	21.1	21.5
	8H	18.6	19.4	19.0	19.8	20.3	19.8	20.6	20.2	21.1	21.5
	12H	18.7	19.4	19.1	19.9	20.3	19.8	20.5	20.3	21.0	21.5

8H	4H	18.3	19.2	18.8	19.6	20.1	19.6	20.4	20.1	20.9	21.3
	6H	19.0	19.7	19.5	20.2	20.7	20.1	20.8	20.6	21.3	21.7
	8H	19.2	19.9	19.7	20.4	20.8	20.2	20.8	20.7	21.3	21.8
	12H	19.4	19.9	19.9	20.4	21.0	20.2	20.8	20.7	21.2	21.8

12H	4H	18.4	19.1	18.8	19.6	20.1	19.6	20.4	20.1	20.8	21.3
	6H	19.1	19.7	19.6	20.2	20.7	20.1	20.7	20.6	21.2	21.7
	8H	19.3	19.9	19.8	20.4	20.9	20.2	20.8	20.7	21.3	21.8

Maximum UGR = 21.8

POLAR GRAPH



Maximum Candela = 1260.87 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.)