

IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-L40-840-D-(L33)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19435.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 06-01-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' RECESSED LED LUMINAIRE

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] AT3-22-L40-840-D-(L33)-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

[_SEARCH_SOURCETYPE] LED

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

[_SEARCH_MOUNTING] Ceiling, Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3445
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	28.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.30
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	3557	3872	4183
55	3128	3533	3797
65	2765	3233	3552
75	2295	2909	3362
85	1234	1094	1038

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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	1355.815	1355.815	1355.815	1355.815	1355.815
5	1352.989	1348.750	1348.043	1347.337	1345.924
10	1322.609	1321.902	1319.076	1327.554	1329.674
15	1277.391	1275.978	1280.924	1298.587	1304.239
20	1208.859	1212.391	1232.174	1257.609	1269.619
25	1124.783	1136.793	1168.587	1203.913	1222.283
30	1037.880	1053.424	1094.402	1141.033	1158.696
35	943.206	960.163	1006.793	1058.369	1075.326
40	837.228	852.772	902.935	951.685	972.880
45	727.011	745.380	791.304	837.228	854.891
50	621.739	639.402	685.326	729.837	741.848
55	518.587	534.837	585.706	623.152	629.511
60	423.206	439.456	487.500	522.826	525.652
65	337.717	351.141	394.946	426.033	433.804
70	252.228	264.946	306.630	334.185	344.783
75	171.685	185.109	217.609	238.098	251.522
80	95.380	112.337	114.457	113.750	112.337
85	31.087	36.739	27.554	26.848	26.141
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	490.60	N.A.	14.20
0-30	1029.9	N.A.	29.90
0-40	1658.9	N.A.	48.20
0-60	2790.59	N.A.	81.00
0-80	3398.21	N.A.	98.60
0-90	3444.73	N.A.	100.00
10-90	3316.81	N.A.	96.30
20-40	1168.31	N.A.	33.90
20-50	1780.13	N.A.	51.70
40-70	1518.16	N.A.	44.10
60-80	607.62	N.A.	17.60
70-80	221.14	N.A.	6.40
80-90	46.52	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	3444.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	127.92
10-20	362.68
20-30	539.30
30-40	629.00
40-50	611.83
50-60	519.86
60-70	386.47
70-80	221.14
80-90	46.52
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	89	79	72	66	76	70	65	73	68	64	71	66	63	60
4	84	72	63	57	81	70	62	56	68	61	56	66	60	55	64	58	54	52
5	77	64	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	44	38	33	32
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	41	35	30	28
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

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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	15.6	17.2	16.0	17.5	17.8	16.8	18.4	17.2	18.7	19.0
	3H	17.3	18.7	17.6	19.0	19.4	18.7	20.1	19.1	20.5	20.8
	4H	17.9	19.2	18.3	19.6	19.9	19.4	20.8	19.8	21.1	21.5
	6H	18.3	19.5	18.7	19.9	20.3	19.8	21.1	20.3	21.5	21.9
	8H	18.4	19.6	18.8	20.0	20.4	19.9	21.1	20.4	21.5	21.9
	12H	18.4	19.6	18.8	19.9	20.4	19.9	21.1	20.4	21.5	21.9

UGR Viewed Endwise

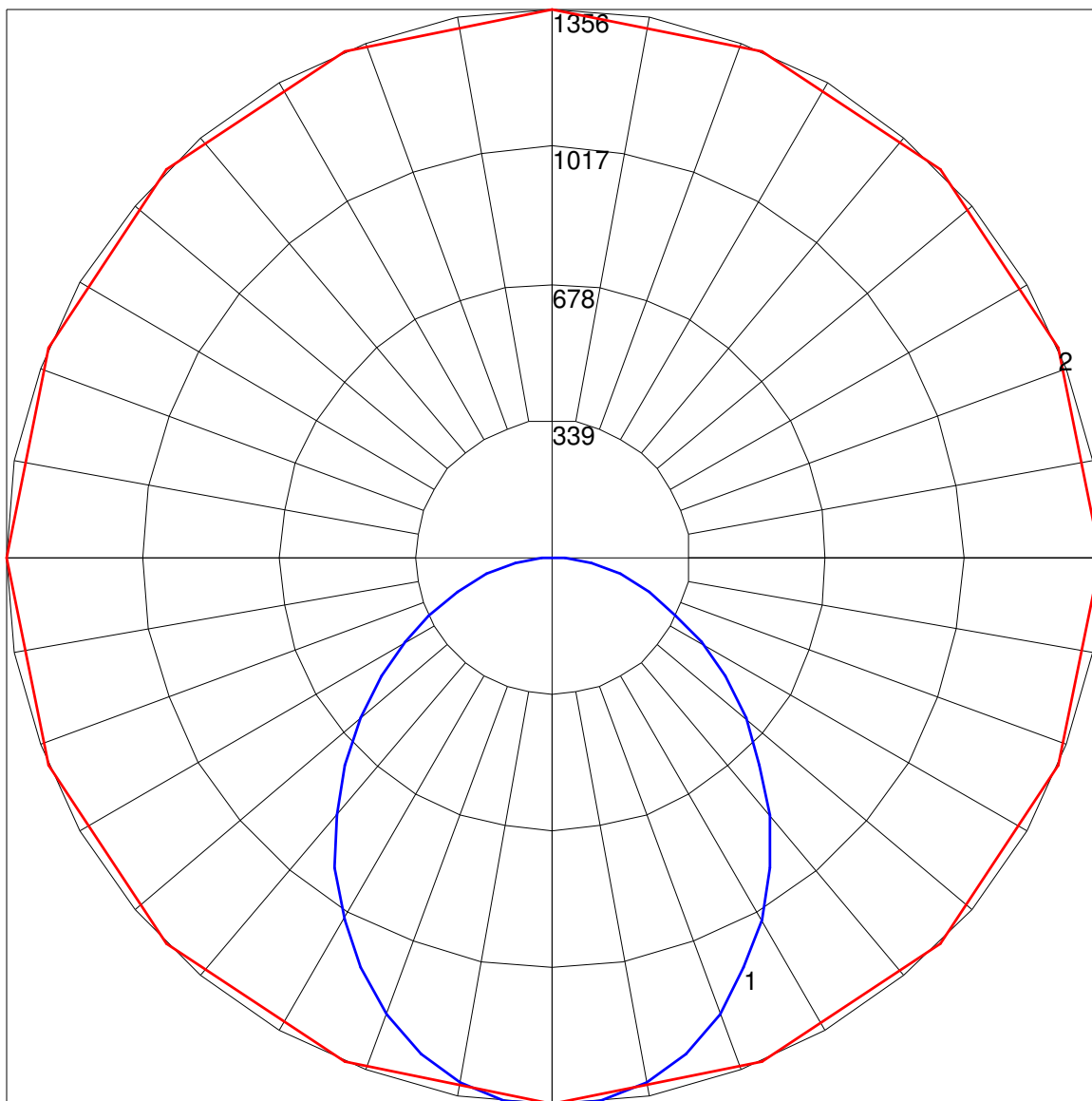
4H	2H	16.4	17.7	16.8	18.1	18.5	17.3	18.7	17.7	19.0	19.4
	3H	18.3	19.4	18.7	19.8	20.2	19.5	20.6	19.9	21.0	21.4
	4H	19.0	20.0	19.4	20.4	20.8	20.3	21.4	20.8	21.8	22.2
	6H	19.5	20.4	19.9	20.8	21.3	20.9	21.7	21.3	22.2	22.6
	8H	19.6	20.5	20.1	20.9	21.4	21.0	21.8	21.4	22.2	22.7
	12H	19.7	20.5	20.2	20.9	21.4	21.0	21.7	21.5	22.2	22.7

8H	4H	19.4	20.2	19.8	20.6	21.1	20.6	21.4	21.0	21.9	22.3
	6H	20.0	20.7	20.5	21.2	21.7	21.2	21.9	21.7	22.4	22.8
	8H	20.2	20.8	20.7	21.3	21.8	21.3	21.9	21.8	22.4	22.9
	12H	20.3	20.9	20.9	21.4	21.9	21.4	21.9	21.9	22.4	23.0

12H	4H	19.4	20.2	19.9	20.6	21.1	20.6	21.3	21.1	21.8	22.3
	6H	20.1	20.7	20.6	21.2	21.7	21.2	21.8	21.7	22.3	22.8
	8H	20.3	20.9	20.8	21.4	21.9	21.4	21.9	21.9	22.4	23.0

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 1355.815 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.)