



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-P16-835-D-POE_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18872.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 26-JUN-2020

[MANUFAC] WILLIAMS LINEAR

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

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

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

[MORE] DIFFUSER

[LUMCAT] AT1-22-P16-835-D-PoE

[SEARCH_SOURCETYPE] LED

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

[SEARCH_MOUNTING] Ceiling, Recessed

[SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1649
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	14.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.32
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	1645	1858	2065
55	1450	1746	1916
65	1252	1621	1847
75	1056	1554	1727
85	694	851	761

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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	622.818	622.818	622.818	622.818	622.818
5	623.382	621.125	620.561	619.997	619.997
10	610.406	609.842	609.278	612.099	614.920
15	587.841	589.533	594.610	599.123	604.765
20	556.812	561.890	572.044	582.199	592.354
25	518.451	526.349	541.581	558.505	572.044
30	478.960	488.551	507.168	532.554	546.658
35	436.085	442.855	468.806	500.962	513.373
40	387.004	396.031	424.802	462.036	471.626
45	336.231	347.514	379.671	414.648	421.982
50	286.586	298.998	334.539	363.310	370.080
55	240.326	253.302	289.407	312.537	317.614
60	194.066	210.991	243.711	264.021	271.354
65	152.884	169.808	198.015	214.940	225.659
70	115.650	128.061	158.525	169.244	178.834
75	78.980	90.828	116.214	119.599	129.190
80	45.132	54.722	69.954	55.850	56.415
85	17.489	19.181	21.438	18.053	19.181
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	226.69	N.A.	13.70
0-30	476.98	N.A.	28.90
0-40	771.74	N.A.	46.80
0-60	1319.38	N.A.	80.00
0-80	1623.01	N.A.	98.40
0-90	1649.23	N.A.	100.00
10-90	1590.3	N.A.	96.40
20-40	545.05	N.A.	33.00
20-50	838.48	N.A.	50.80
40-70	739.44	N.A.	44.80
60-80	303.63	N.A.	18.40
70-80	111.84	N.A.	6.80
80-90	26.21	N.A.	1.60
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	1649.23	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	58.93
10-20	167.76
20-30	250.29
30-40	294.76
40-50	293.43
50-60	254.21
60-70	191.79
70-80	111.84
80-90	26.21
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	52	52	52	52	51	51	51	51	49	49	49	47	47	47	45	45	45	44
1	48	46	44	42	47	45	43	41	43	41	40	41	40	39	40	39	38	37
2	43	40	37	34	42	39	36	34	38	35	33	36	34	32	35	33	32	31
3	40	35	32	29	39	34	31	28	33	30	28	32	30	28	31	29	27	26
4	36	31	27	24	35	31	27	24	29	26	24	28	26	24	28	25	23	22
5	33	28	24	21	33	27	24	21	26	23	21	26	23	21	25	22	20	19
6	31	25	21	18	30	25	21	18	24	21	18	23	20	18	23	20	18	17
7	29	23	19	16	28	22	19	16	22	19	16	21	18	16	21	18	16	15
8	27	21	17	15	26	21	17	15	20	17	15	19	17	14	19	16	14	13
9	25	19	16	13	24	19	16	13	18	15	13	18	15	13	18	15	13	12
10	23	18	14	12	23	17	14	12	17	14	12	17	14	12	16	14	12	11

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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

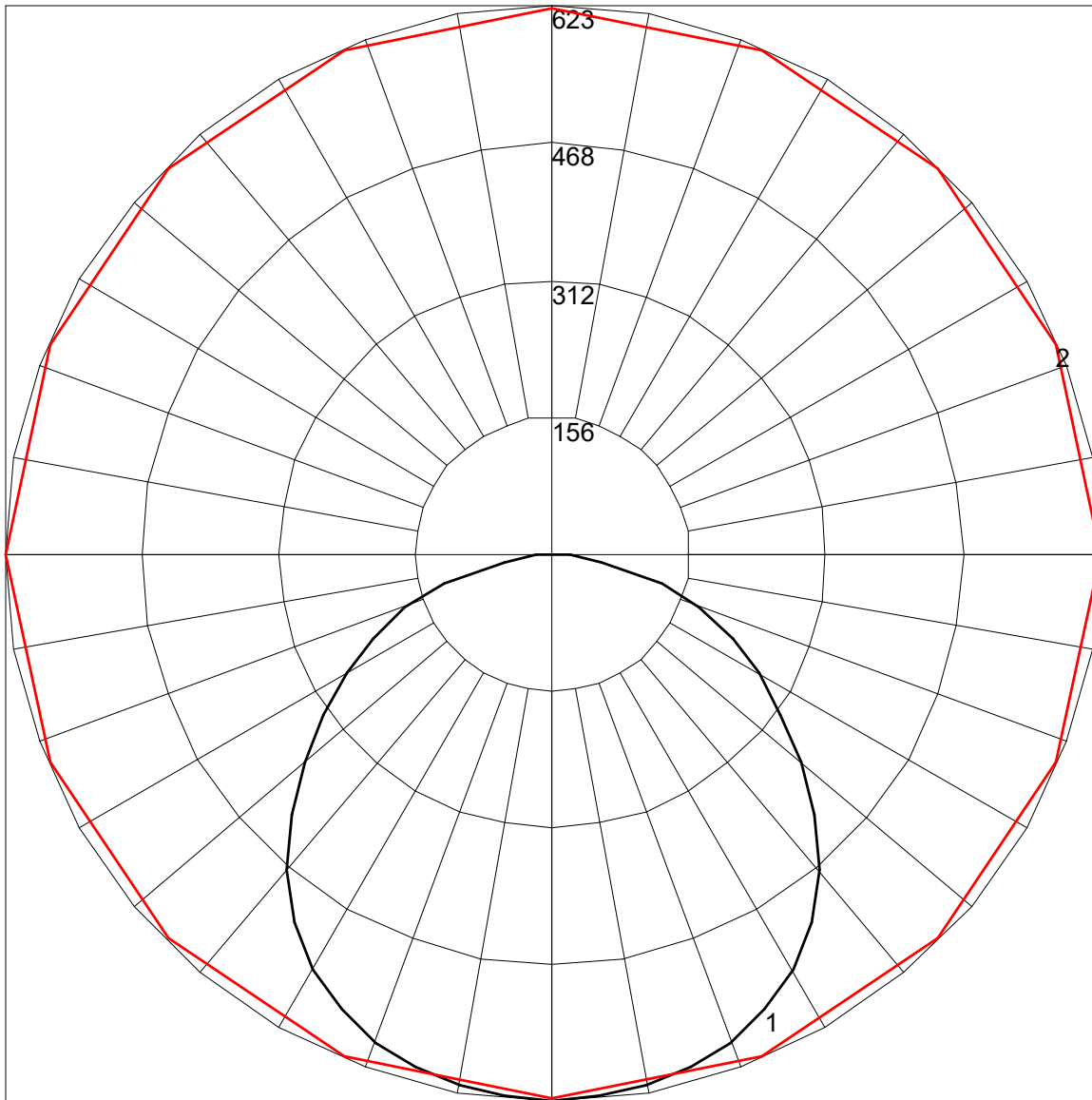
X=2H	Y=2H	15.8	17.4	16.2	17.7	18.1	17.4	19.0	17.8	19.4	19.7
	3H	17.4	18.9	17.8	19.2	19.6	19.4	20.8	19.8	21.2	21.5
	4H	18.0	19.4	18.4	19.8	20.1	20.1	21.5	20.5	21.9	22.2
	6H	18.4	19.7	18.9	20.1	20.5	20.5	21.8	20.9	22.2	22.6
	8H	18.6	19.8	19.0	20.2	20.6	20.6	21.8	21.1	22.2	22.6
	12H	18.6	19.8	19.0	20.2	20.6	20.6	21.8	21.1	22.2	22.6

UGR Viewed Endwise

4H	2H	16.7	18.1	17.1	18.4	18.8	18.0	19.3	18.4	19.7	20.1
	3H	18.6	19.7	19.0	20.1	20.5	20.1	21.3	20.6	21.7	22.1
	4H	19.3	20.3	19.7	20.7	21.2	21.0	22.1	21.5	22.5	22.9
	6H	19.8	20.7	20.2	21.1	21.6	21.5	22.4	22.0	22.9	23.3
	8H	19.9	20.8	20.4	21.2	21.7	21.6	22.5	22.1	22.9	23.4
	12H	20.0	20.8	20.5	21.3	21.7	21.7	22.5	22.2	22.9	23.4
8H	4H	19.8	20.6	20.2	21.1	21.5	21.3	22.1	21.8	22.6	23.1
	6H	20.4	21.1	20.9	21.6	22.1	21.9	22.6	22.4	23.1	23.6
	8H	20.6	21.3	21.1	21.8	22.3	22.0	22.7	22.6	23.2	23.7
	12H	20.8	21.3	21.3	21.8	22.4	22.2	22.7	22.7	23.2	23.8
12H	4H	19.8	20.6	20.3	21.1	21.5	21.3	22.1	21.8	22.6	23.0
	6H	20.5	21.2	21.0	21.6	22.2	21.9	22.6	22.5	23.0	23.6
	8H	20.8	21.4	21.3	21.8	22.4	22.1	22.7	22.6	23.2	23.8

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 623.382 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)