



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-L40-840-D-(L32)-EM10W-DIM-UNV(EMER MODE)_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19435.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 07-17-2020

[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-(L32)-EM10W-DIM-UNV(EMER MODE)

[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	1015
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	10
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	1048	1141	1232
55	922	1041	1119
65	815	953	1046
75	676	857	991
85	364	322	306

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	399.464	399.464	399.464	399.464	399.464
5	398.631	397.382	397.174	396.966	396.549
10	389.680	389.472	388.639	391.137	391.762
15	376.358	375.941	377.398	382.602	384.268
20	356.166	357.207	363.035	370.529	374.068
25	331.395	334.933	344.301	354.709	360.121
30	305.791	310.370	322.444	336.182	341.386
35	277.897	282.893	296.631	311.827	316.823
40	246.672	251.252	266.032	280.395	286.640
45	214.199	219.611	233.142	246.672	251.877
50	183.183	188.387	201.918	215.032	218.571
55	152.791	157.579	172.567	183.599	185.473
60	124.689	129.477	143.632	154.040	154.873
65	99.502	103.457	116.363	125.522	127.812
70	74.314	78.061	90.342	98.461	101.583
75	50.583	54.539	64.114	70.151	74.106
80	28.102	33.098	33.722	33.514	33.098
85	9.159	10.824	8.118	7.910	7.702
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	144.54	N.A.	14.20
0-30	303.44	N.A.	29.90
0-40	488.76	N.A.	48.20
0-60	822.19	N.A.	81.00
0-80	1001.21	N.A.	98.60
0-90	1014.92	N.A.	100.00
10-90	977.23	N.A.	96.30
20-40	344.22	N.A.	33.90
20-50	524.48	N.A.	51.70
40-70	447.30	N.A.	44.10
60-80	179.02	N.A.	17.60
70-80	65.16	N.A.	6.40
80-90	13.71	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	1014.92	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	37.69
10-20	106.86
20-30	158.90
30-40	185.32
40-50	180.26
50-60	153.17
60-70	113.87
70-80	65.16
80-90	13.71
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	11.4	13.0	11.8	13.3	13.6	12.6	14.2	13.0	14.5	14.8
	3H	13.1	14.5	13.4	14.8	15.2	14.5	15.9	14.9	16.3	16.6
	4H	13.7	15.0	14.1	15.4	15.7	15.2	16.6	15.6	16.9	17.3
	6H	14.1	15.3	14.5	15.7	16.1	15.6	16.9	16.1	17.3	17.7
	8H	14.2	15.4	14.6	15.8	16.2	15.7	16.9	16.2	17.3	17.7
	12H	14.2	15.4	14.6	15.7	16.2	15.7	16.9	16.2	17.3	17.7

UGR Viewed Endwise

4H	2H	12.2	13.5	12.6	13.9	14.3	13.1	14.5	13.5	14.8	15.2
	3H	14.1	15.2	14.5	15.6	16.0	15.3	16.4	15.7	16.8	17.2
	4H	14.8	15.8	15.2	16.2	16.6	16.1	17.2	16.6	17.6	18.0
	6H	15.3	16.2	15.7	16.6	17.1	16.7	17.5	17.1	18.0	18.4
	8H	15.4	16.3	15.9	16.7	17.2	16.8	17.6	17.2	18.0	18.5
	12H	15.5	16.3	16.0	16.7	17.2	16.8	17.5	17.3	18.0	18.5

8H	4H	15.2	16.0	15.6	16.4	16.9	16.4	17.2	16.8	17.7	18.1
	6H	15.8	16.5	16.3	17.0	17.5	17.0	17.7	17.5	18.2	18.6
	8H	16.0	16.6	16.5	17.1	17.6	17.1	17.7	17.6	18.2	18.7
	12H	16.1	16.7	16.7	17.2	17.7	17.2	17.7	17.7	18.2	18.8

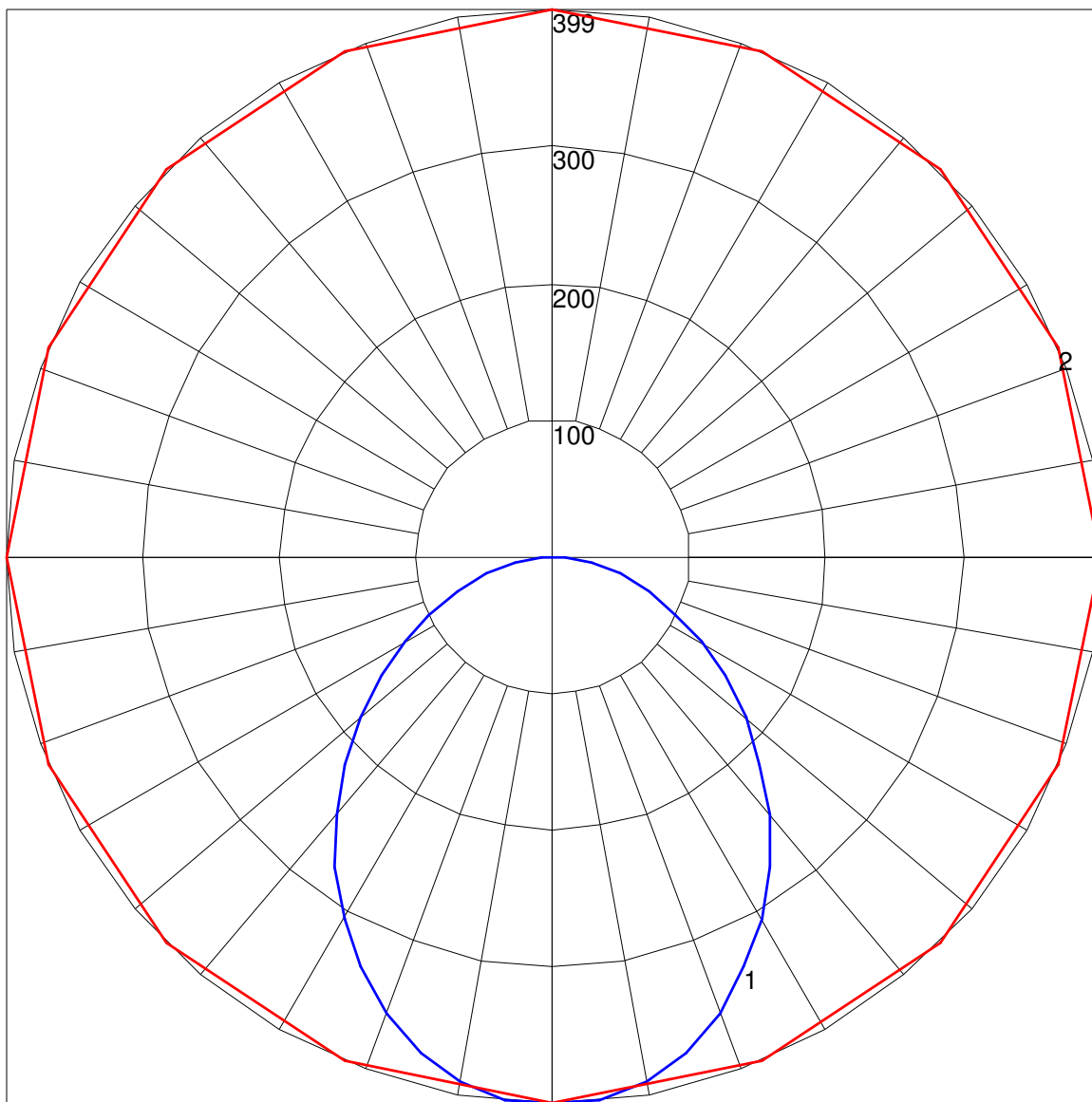
12H	4H	15.2	16.0	15.7	16.4	16.9	16.4	17.1	16.9	17.6	18.1
	6H	15.9	16.5	16.4	17.0	17.5	17.0	17.6	17.5	18.1	18.6
	8H	16.1	16.7	16.6	17.2	17.7	17.2	17.7	17.7	18.2	18.8

Maximum UGR = 18.8

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POLAR GRAPH



Maximum Candela = 399.464 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.)