



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L85-835-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19260.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 24-JAN-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4-56LED 22"ARRAYS 2x4'RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CONCAVE LX4 LENS IN DOOR

[LUMCAT] AT3-24-L85-835-D-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

[_SEARCH_SOURCETYPE]LED

[_SEARCH_APPLICATION]INDOOR,COMMERCIAL,DIRECT,OFFICE,ARCHITECTURAL

[_SEARCH_MOUNTING]RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8376
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	86
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3815	4265	4549
55	3251	3768	4009
65	2952	3606	3873
75	2511	3433	3433
85	2224	1586	1483

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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	3337.221	3337.221	3337.221	3337.221	3337.221
5	3319.570	3320.746	3320.746	3321.923	3323.100
10	3252.496	3256.026	3264.263	3274.854	3281.914
15	3132.469	3140.706	3159.534	3187.775	3200.719
20	2952.428	2970.079	3014.795	3068.925	3091.283
25	2710.021	2732.379	2798.276	2871.234	2904.182
30	2454.669	2694.723	2545.278	2537.041	2721.788
35	2195.788	2235.797	2349.940	2461.730	2504.092
40	1947.496	1993.389	2129.890	2239.327	2274.629
45	1768.633	1825.116	1976.915	2076.937	2108.709
50	1488.570	1553.290	1694.498	1776.870	1798.051
55	1222.628	1289.702	1416.789	1483.863	1507.398
60	994.341	1063.768	1172.028	1233.218	1253.223
65	817.831	894.319	999.048	1056.708	1073.182
70	618.963	700.157	795.473	841.366	849.603
75	425.978	507.173	582.484	589.544	582.484
80	275.356	357.727	350.667	243.584	221.226
85	127.087	145.915	90.609	85.902	84.725
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1206.14	N.A.	14.40
0-30	2499.23	N.A.	29.80
0-40	3972.19	N.A.	47.40
0-60	6708.94	N.A.	80.10
0-80	8235.55	N.A.	98.30
0-90	8375.51	N.A.	100.00
10-90	8060.28	N.A.	96.20
20-40	2766.05	N.A.	33.00
20-50	4251.93	N.A.	50.80
40-70	3693.64	N.A.	44.10
60-80	1526.62	N.A.	18.20
70-80	569.72	N.A.	6.80
80-90	139.95	N.A.	1.70
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	8375.51	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	315.23
10-20	890.91
20-30	1293.09
30-40	1472.96
40-50	1485.87
50-60	1250.87
60-70	956.90
70-80	569.72
80-90	139.95
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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26

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UGR TABLE - CORRECTED

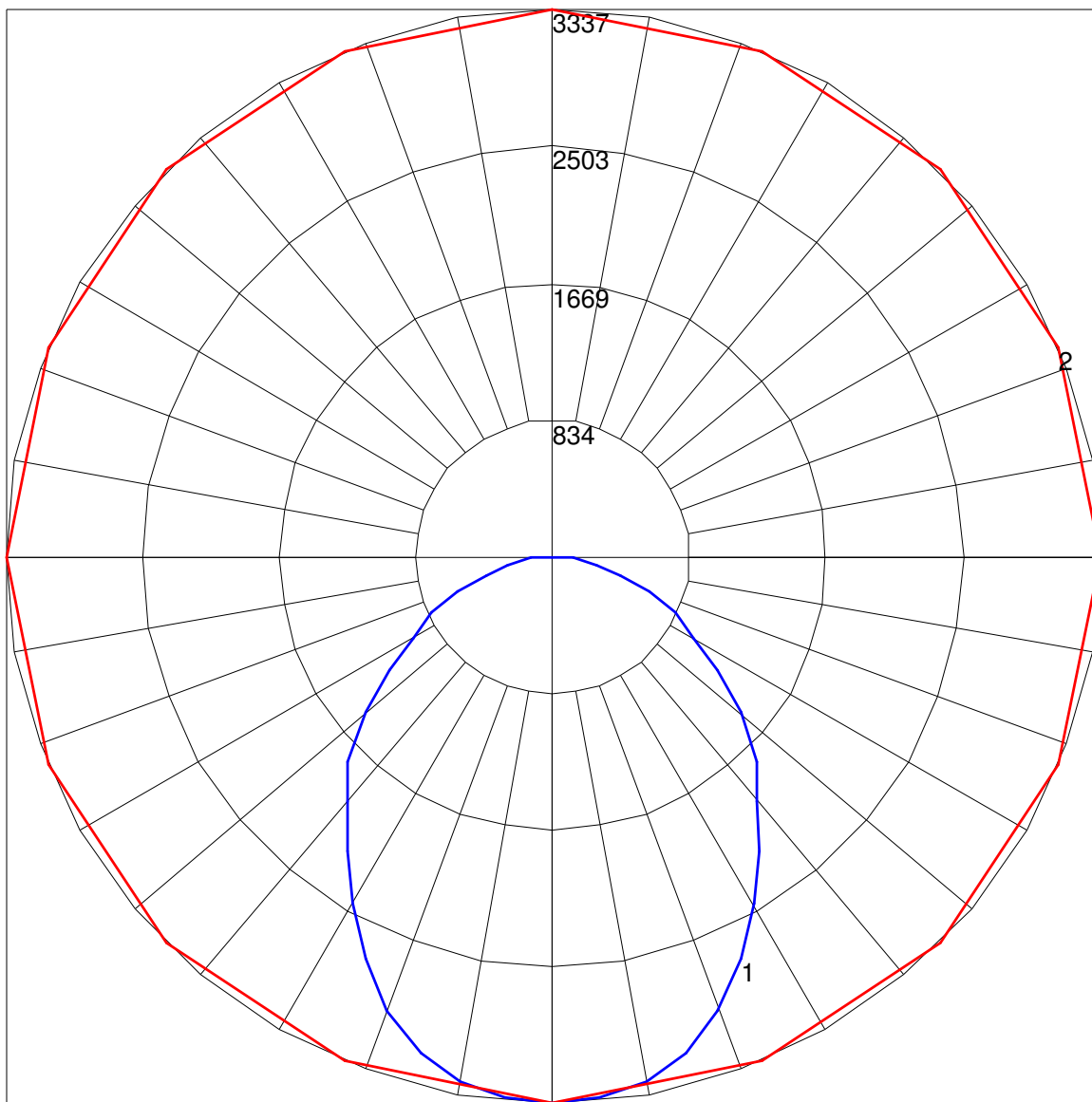
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	15.8	17.4	16.2	17.7	18.0	16.9	18.5	17.2	18.8	19.1
	3H	17.6	19.0	17.9	19.3	19.7	18.9	20.4	19.3	20.7	21.0
	4H	18.2	19.6	18.6	19.9	20.3	19.6	21.0	20.0	21.4	21.7
	6H	18.7	20.0	19.1	20.4	20.8	20.0	21.2	20.4	21.6	22.0
	8H	18.9	20.1	19.4	20.5	20.9	20.0	21.2	20.4	21.6	22.0
	12H	19.1	20.2	19.5	20.6	21.0	20.1	21.2	20.5	21.6	22.0
4H	2H	16.6	18.0	17.0	18.4	18.7	17.5	18.8	17.9	19.2	19.6
	3H	18.7	19.8	19.1	20.2	20.6	19.7	20.9	20.2	21.3	21.7
	4H	19.5	20.5	19.9	20.9	21.3	20.6	21.7	21.1	22.1	22.5
	6H	20.1	21.1	20.6	21.5	21.9	21.0	21.9	21.5	22.4	22.8
	8H	20.4	21.2	20.8	21.7	22.1	21.1	22.0	21.6	22.4	22.9
	12H	20.5	21.3	21.0	21.8	22.3	21.2	21.9	21.6	22.4	22.9
8H	4H	19.9	20.8	20.4	21.2	21.7	20.9	21.8	21.4	22.2	22.7
	6H	20.8	21.5	21.3	22.0	22.5	21.4	22.1	21.9	22.6	23.1
	8H	21.1	21.7	21.6	22.3	22.7	21.5	22.2	22.0	22.7	23.2
	12H	21.4	21.9	21.9	22.4	23.0	21.6	22.2	22.1	22.7	23.2
12H	4H	20.0	20.7	20.4	21.2	21.7	20.9	21.7	21.4	22.2	22.7
	6H	20.9	21.5	21.4	22.0	22.5	21.5	22.1	22.0	22.6	23.1
	8H	21.2	21.8	21.7	22.3	22.9	21.6	22.2	22.2	22.7	23.3

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 3337.221 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.)