



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-840-HIAFR-(L20)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20854.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 21-DEC-2020

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

[LUMINAIRE] 4-56 LED 22"ARRAYS 4'ENCLOSED AND GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/ACYLIC RIBBED FROST DROP LENS

[LUMCAT] 96-4-L40-840-HIAFR-(L20)-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2013
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	134
Total Luminaire Watts	15
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.29 ft
Luminous Width (90-270)	0.54 ft
Luminous Height	0.17 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2692	2224	2146
55	2269	1876	1897
65	1743	1570	1742
75	1181	1327	1574
85	480	1129	1378

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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	720.019	720.019	720.019	720.019	720.019
5	730.924	715.657	709.426	705.687	703.506
10	718.150	701.325	693.536	689.798	686.059
15	698.833	681.697	672.039	661.134	656.149
20	672.350	653.968	638.078	625.927	618.138
25	638.078	617.827	601.003	581.997	576.389
30	596.641	575.766	551.464	546.479	548.660
35	548.037	526.851	510.650	517.816	519.062
40	489.463	472.639	466.719	475.132	474.508
45	427.774	415.000	423.724	425.593	429.332
50	363.593	358.296	370.758	377.301	383.532
55	297.230	301.903	314.366	330.255	338.979
60	230.556	244.576	262.335	290.376	300.657
65	172.605	190.676	219.028	252.677	264.516
70	120.574	142.384	178.213	214.666	226.505
75	75.709	101.881	142.384	177.590	189.430
80	38.945	67.297	110.916	143.318	150.484
85	13.086	42.061	81.006	109.047	117.459
90	4.985	26.171	59.197	82.875	88.484
95	4.050	18.382	47.981	67.297	71.659
100	3.739	11.528	37.076	53.589	57.327
105	3.116	6.854	28.041	42.996	46.734
110	1.869	2.181	19.005	32.714	36.141
115	1.246	1.246	11.839	24.613	28.041
120	0.623	0.623	6.231	16.824	20.563
125	0.312	0.312	1.246	9.970	13.709
130	0.000	0.000	0.000	4.362	7.477
135	0.000	0.000	0.000	0.312	2.181
140	0.000	0.000	0.000	0.000	0.312
145	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	257.05	N.A.	12.80
0-30	534.65	N.A.	26.60
0-40	860.48	N.A.	42.70
0-60	1470.6	N.A.	73.10
0-80	1836.85	N.A.	91.20
0-90	1920.4	N.A.	95.40
10-90	1852.88	N.A.	92.00
20-40	603.43	N.A.	30.00
20-50	929.86	N.A.	46.20
40-70	828.89	N.A.	41.20
60-80	366.25	N.A.	18.20
70-80	147.48	N.A.	7.30
80-90	83.55	N.A.	4.20
90-110	74.36	N.A.	3.70
90-120	87.55	N.A.	4.30
90-130	92.05	N.A.	4.60
90-150	92.61	N.A.	4.60
90-180	92.61	N.A.	4.60
110-180	18.25	N.A.	0.90
0-180	2013.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	67.51
10-20	189.54
20-30	277.60
30-40	325.83
40-50	326.43
50-60	283.69
60-70	218.77
70-80	147.48
80-90	83.55
90-100	47.12
100-110	27.24
110-120	13.19
120-130	4.50
130-140	0.55
140-150	0.01
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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	95
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	85	83	80	78
2	97	88	81	75	94	86	80	74	82	76	72	78	73	69	74	71	67	65
3	88	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	78	67	59	53	64	57	51	61	55	50	59	53	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	51	42	36	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	35	31	40	35	30	28
9	56	42	34	29	54	42	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	26	36	30	25	35	29	25	23

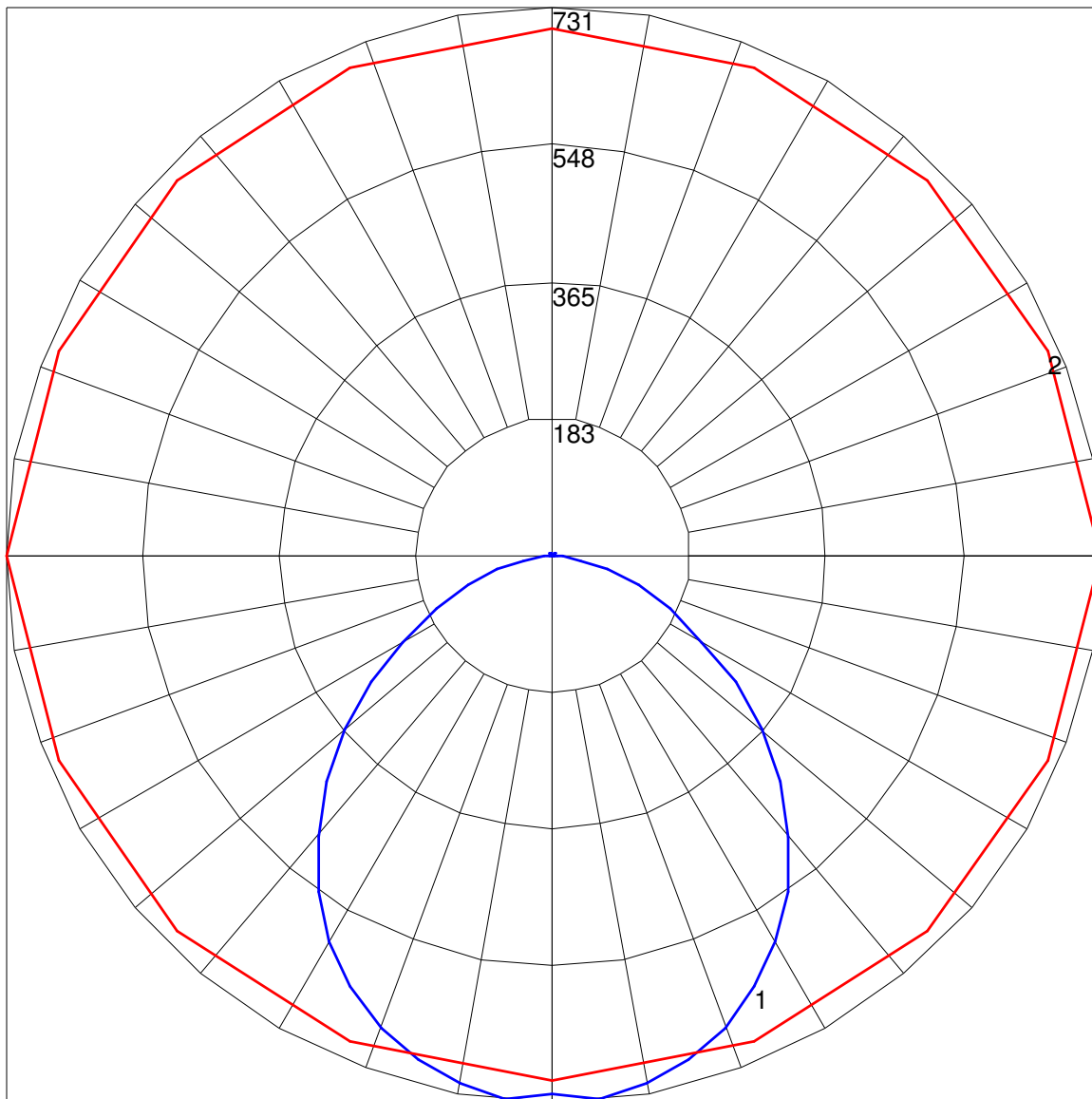
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UGR TABLE - CORRECTED

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	12.8	14.4	13.3	14.8	15.2	14.5	16.0	15.0	16.5	16.9
	3H	14.0	15.4	14.5	15.8	16.3	16.8	18.2	17.3	18.7	19.1
	4H	14.4	15.7	14.8	16.1	16.6	17.9	19.2	18.4	19.7	20.2
	6H	14.5	15.8	15.0	16.2	16.7	19.0	20.2	19.5	20.7	21.2
	8H	14.6	15.7	15.1	16.2	16.7	19.5	20.6	20.0	21.1	21.6
	12H	14.6	15.7	15.1	16.2	16.7	20.0	21.1	20.5	21.6	22.2
4H	2H	13.6	14.9	14.0	15.3	15.8	14.9	16.2	15.4	16.7	17.2
	3H	15.0	16.1	15.5	16.6	17.1	17.5	18.6	17.9	19.1	19.6
	4H	15.5	16.5	16.0	17.0	17.5	18.7	19.7	19.2	20.2	20.8
	6H	15.8	16.6	16.3	17.2	17.7	20.0	20.8	20.5	21.4	21.9
	8H	15.8	16.6	16.3	17.2	17.8	20.6	21.4	21.1	21.9	22.5
	12H	15.8	16.6	16.4	17.1	17.7	21.2	22.0	21.8	22.5	23.1
8H	4H	16.1	16.9	16.6	17.4	18.0	18.9	19.7	19.4	20.3	20.8
	6H	16.5	17.2	17.1	17.8	18.4	20.3	21.0	20.9	21.6	22.2
	8H	16.6	17.3	17.2	17.9	18.5	21.0	21.7	21.6	22.3	22.9
	12H	16.7	17.3	17.3	17.9	18.5	21.9	22.4	22.4	23.0	23.7
12H	4H	16.2	17.0	16.8	17.5	18.1	18.9	19.6	19.4	20.2	20.8
	6H	16.8	17.4	17.4	18.0	18.6	20.3	21.0	20.9	21.5	22.2
	8H	17.0	17.5	17.6	18.1	18.8	21.1	21.7	21.7	22.3	22.9

Maximum UGR = 23.7

POLAR GRAPH



Maximum Candela = 730.924 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)