



IES INDOOR REPORT

PHOTOMETRIC FILENAME : CL-4-L120-840-FDMA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18716.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 1-SEP-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' CORNER MOUNT LUMINAIRE

[MORE] WITH SMOOTH MATTE ACRYLIC LENS

[LUMCAT] CL-4-L54/840-FDMA-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K CCT

[_SEARCH_SOURCE] LED

[_SEARCH_APPLICATION] INDOOR, COMMERCIAL, EDUCATIONAL, OFFICE

[_SEARCH_MOUNTING] SURFACE

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11976
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	106.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.72
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.66
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.48 ft
Luminous Width (90-270)	3.77 ft
Luminous Height	0.48 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24283	20004	9192
55	23532	18974	7741
65	22947	17706	6584
75	20528	15240	5532
85	18620	13036	3829

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0	2335.034	2335.034	2335.034	2335.034	2335.034	2335.034	2335.034	2335.034	2335.034
5	2895.031	2826.958	2695.949	2477.602	2283.658	2180.906	2025.494	1911.183	1871.366
10	3433.193	3307.322	3015.764	2609.895	2209.163	1911.183	1642.744	1477.057	1414.121
15	4040.713	3873.741	3444.753	2843.655	2237.420	1785.312	1442.378	1258.709	1190.636
20	4503.096	4251.354	3639.981	2758.885	1945.861	1379.442	1030.086	846.418	789.904
25	4938.506	4693.187	3959.796	2918.150	1939.439	1270.269	899.078	720.547	669.171
30	5276.303	4961.626	4137.043	2889.893	1745.496	1030.086	692.290	526.603	463.667
35	5448.412	5138.872	4223.097	2861.637	1624.762	904.215	577.979	394.310	326.237
40	5602.540	5271.165	4269.336	2752.463	1424.396	698.712	394.310	200.366	120.733
45	5768.227	5402.174	4269.336	2591.913	1230.452	561.281	246.604	62.935	39.816
50	5688.594	5304.560	4143.465	2426.226	1064.765	446.970	97.614	46.238	0.000
55	5504.926	5115.753	3908.420	2186.044	881.096	321.099	39.816	0.000	0.000
60	5264.743	4852.452	3645.119	1968.981	738.528	188.806	0.000	0.000	0.000
65	5122.175	4686.765	3404.936	1739.074	594.676	57.798	0.000	0.000	0.000
70	4766.397	4332.271	3067.140	1498.891	486.786	0.000	0.000	0.000	0.000
75	4223.097	3805.668	2633.014	1247.149	354.494	0.000	0.000	0.000	0.000
80	3828.787	3410.074	2277.236	1013.389	246.604	0.000	0.000	0.000	0.000
85	3388.239	2975.948	1929.164	824.583	137.430	0.000	0.000	0.000	0.000
90	2626.592	2288.795	1453.937	606.235	0.000	0.000	0.000	0.000	0.000
95	2225.860	1894.486	1167.517	423.851	0.000	0.000	0.000	0.000	0.000
100	1705.679	1430.818	875.959	279.999	0.000	0.000	0.000	0.000	0.000
105	1286.966	1087.884	640.914	142.568	0.000	0.000	0.000	0.000	0.000
110	995.408	841.280	475.227	0.000	0.000	0.000	0.000	0.000	0.000
115	743.666	629.355	321.099	0.000	0.000	0.000	0.000	0.000	0.000
120	554.860	457.245	165.687	0.000	0.000	0.000	0.000	0.000	0.000
125	372.475	274.861	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	211.926	120.733	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	28.257	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	897.11	N.A.	7.50
0-30	1993.42	N.A.	16.60
0-40	3443.95	N.A.	28.80
0-60	6809.9	N.A.	56.90
0-80	9769.99	N.A.	81.60
0-90	10780.39	N.A.	90.00
10-90	10557.25	N.A.	88.10
20-40	2546.84	N.A.	21.30
20-50	4209.93	N.A.	35.20
40-70	4973.91	N.A.	41.50
60-80	2960.09	N.A.	24.70
70-80	1352.14	N.A.	11.30
80-90	1010.4	N.A.	8.40
90-110	964.82	N.A.	8.10
90-120	1131.64	N.A.	9.40
90-130	1189.67	N.A.	9.90
90-150	1196.08	N.A.	10.00
90-180	1196.08	N.A.	10.00
110-180	231.25	N.A.	1.90
0-180	11976.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	223.14
10-20	673.97
20-30	1096.31
30-40	1450.52
40-50	1663.09
50-60	1702.87
60-70	1607.95
70-80	1352.14
80-90	1010.4
90-100	624.22
100-110	340.60
110-120	166.81
120-130	58.03
130-140	6.41
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	258	258	258	258	249	249	249	249	233	233	233	219	219	219	205	205	205	199
1	227	213	200	189	218	205	194	184	192	182	174	179	171	164	167	161	156	149
2	203	181	162	147	194	174	158	143	163	149	136	152	140	130	142	132	124	117
3	183	156	135	118	175	150	131	115	140	124	110	131	117	106	122	111	101	95
4	166	136	114	97	159	131	111	95	123	105	92	115	100	88	107	95	84	78
5	152	120	98	82	145	116	96	81	109	91	78	102	87	75	96	82	72	66
6	139	107	86	70	133	104	84	69	98	80	67	92	76	64	86	73	62	57
7	129	97	76	61	123	94	74	60	88	71	58	83	68	56	78	65	54	49
8	119	88	68	54	115	85	66	53	80	63	51	76	61	50	71	58	48	43
9	111	80	61	48	107	78	60	47	73	57	46	69	55	44	66	53	43	38
10	104	73	55	43	100	71	54	42	68	52	41	64	50	40	61	48	39	34

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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	24.4	25.9	24.9	26.4	27.0	13.6	15.2	14.1	15.7	16.3
	3H	27.4	28.9	27.9	29.4	30.0	14.8	16.2	15.3	16.8	17.3
	4H	28.8	30.2	29.4	30.7	31.3	15.2	16.5	15.7	17.1	17.7
	6H	30.3	31.6	30.8	32.1	32.7	15.4	16.7	16.0	17.2	17.9
	8H	31.0	32.2	31.6	32.8	33.4	15.5	16.7	16.0	17.3	17.9
	12H	31.7	32.9	32.3	33.5	34.1	15.5	16.7	16.1	17.3	17.9

UGR Viewed Endwise

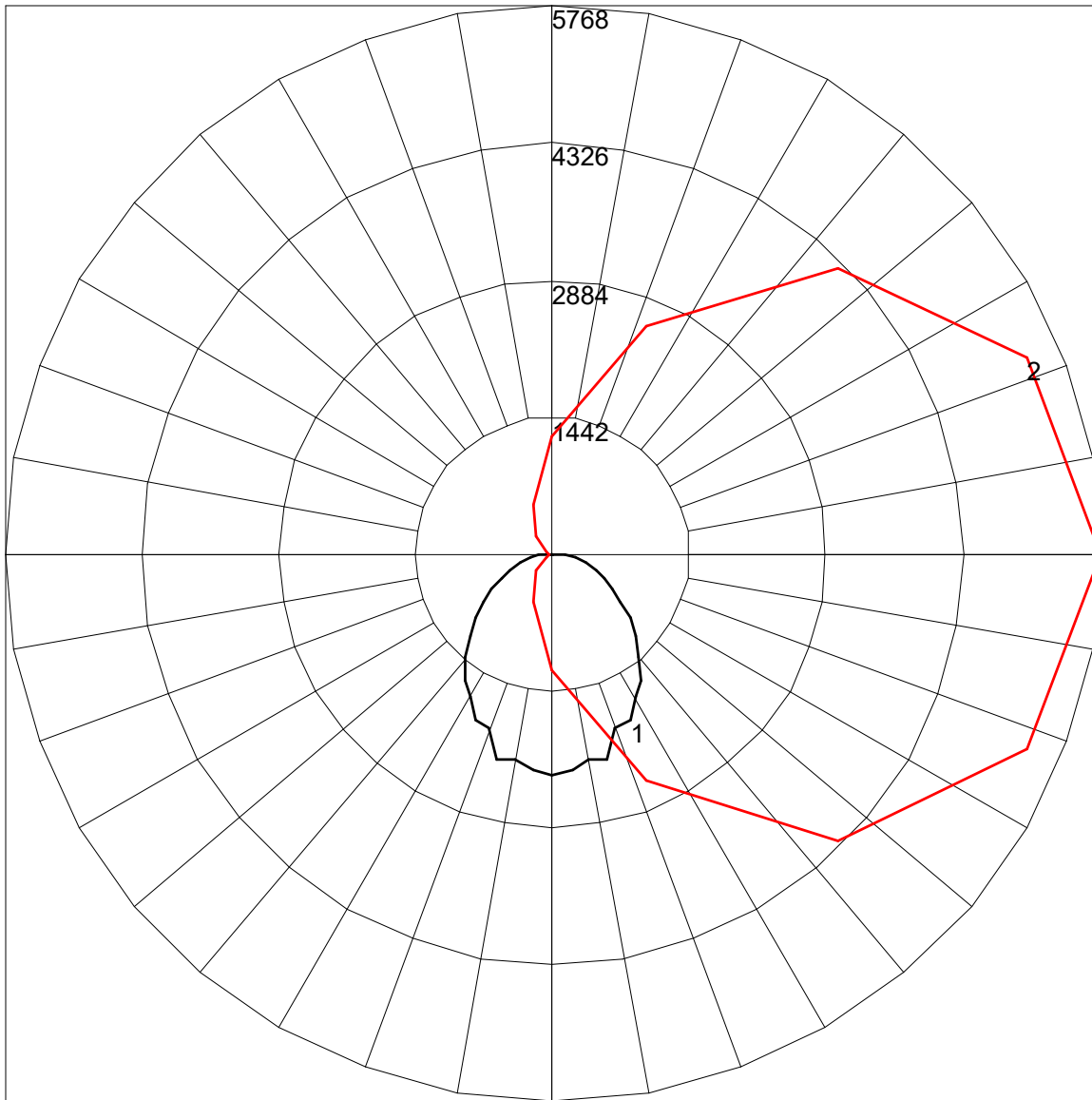
4H	2H	24.6	26.0	25.1	26.5	27.1	16.6	18.0	17.1	18.5	19.1
	3H	27.9	29.1	28.4	29.6	30.3	18.0	19.2	18.5	19.8	20.4
	4H	29.4	30.5	30.0	31.1	31.8	18.4	19.5	19.0	20.1	20.8
	6H	31.1	32.1	31.7	32.7	33.3	18.7	19.7	19.3	20.3	21.0
	8H	31.9	32.8	32.5	33.5	34.1	18.8	19.7	19.4	20.3	21.0
	12H	32.8	33.7	33.4	34.3	35.0	18.9	19.7	19.5	20.3	21.0

8H	4H	29.6	30.5	30.2	31.1	31.8	20.3	21.2	20.9	21.9	22.5
	6H	31.4	32.1	32.0	32.8	33.5	20.9	21.7	21.5	22.3	23.0
	8H	32.3	33.0	33.0	33.7	34.4	21.0	21.8	21.7	22.4	23.1
	12H	33.4	34.0	34.0	34.7	35.4	21.2	21.8	21.8	22.5	23.2

12H	4H	29.5	30.4	30.2	31.0	31.7	20.9	21.7	21.5	22.4	23.0
	6H	31.4	32.1	32.0	32.7	33.5	21.6	22.3	22.3	23.0	23.7
	8H	32.4	33.0	33.0	33.7	34.4	21.9	22.6	22.6	23.2	24.0

Maximum UGR = 35.4

POLAR GRAPH



Maximum Candela = 5768.227 Located At Horizontal Angle = 0, Vertical Angle = 45
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (45) (Through Max. Cd.)