



IES INDOOR REPORT
PHOTOMETRIC FILENAME : CL-4-L88-840-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-L88/840-FDMA-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [SEARCH_SOURCETYPE] 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	8835
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	74.1
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	17913	14756	6781
55	17359	13996	5710
65	16927	13061	4857
75	15143	11242	4081
85	13735	9616	2824

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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	1722.470	1722.470	1722.470	1722.470	1722.470	1722.470	1722.470	1722.470	1722.470
5	2135.559	2085.344	1988.704	1827.637	1684.571	1608.775	1494.133	1409.810	1380.439
10	2532.542	2439.692	2224.620	1925.225	1629.619	1409.810	1211.792	1089.571	1043.146
15	2980.687	2857.518	2541.069	2097.661	1650.463	1316.960	1063.990	928.504	878.289
20	3321.770	3136.070	2685.082	2035.129	1435.391	1017.565	759.857	624.372	582.684
25	3642.957	3461.993	2920.998	2152.613	1430.654	937.031	663.217	531.521	493.623
30	3892.137	3660.011	3051.746	2131.769	1287.589	759.857	510.677	388.456	342.031
35	4019.096	3790.760	3115.226	2110.925	1198.528	667.007	426.354	290.868	240.653
40	4132.790	3888.347	3149.334	2030.392	1050.725	515.414	290.868	147.803	89.061
45	4255.012	3984.987	3149.334	1911.960	907.660	414.037	181.911	46.425	29.371
50	4196.269	3912.981	3056.483	1789.739	785.439	329.714	72.006	34.108	0.000
55	4060.784	3773.705	2883.100	1612.565	649.953	236.863	29.371	0.000	0.000
60	3883.610	3579.478	2688.872	1452.445	544.785	139.276	0.000	0.000	0.000
65	3778.443	3457.256	2511.698	1282.851	438.671	42.635	0.000	0.000	0.000
70	3515.998	3195.759	2262.518	1105.678	359.085	0.000	0.000	0.000	0.000
75	3115.226	2807.303	1942.279	919.977	261.497	0.000	0.000	0.000	0.000
80	2824.357	2515.488	1679.834	747.540	181.911	0.000	0.000	0.000	0.000
85	2499.381	2195.249	1423.074	608.265	101.377	0.000	0.000	0.000	0.000
90	1937.541	1688.361	1072.517	447.198	0.000	0.000	0.000	0.000	0.000
95	1641.936	1397.493	861.235	312.659	0.000	0.000	0.000	0.000	0.000
100	1258.218	1055.463	646.163	206.545	0.000	0.000	0.000	0.000	0.000
105	949.348	802.493	472.779	105.167	0.000	0.000	0.000	0.000	0.000
110	734.276	620.582	350.558	0.000	0.000	0.000	0.000	0.000	0.000
115	548.575	464.252	236.863	0.000	0.000	0.000	0.000	0.000	0.000
120	409.300	337.293	122.221	0.000	0.000	0.000	0.000	0.000	0.000
125	274.761	202.755	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	156.330	89.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	20.844	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	661.76	N.A.	7.50
0-30	1470.48	N.A.	16.60
0-40	2540.48	N.A.	28.80
0-60	5023.42	N.A.	56.90
0-80	7206.97	N.A.	81.60
0-90	7952.3	N.A.	90.00
10-90	7787.7	N.A.	88.10
20-40	1878.71	N.A.	21.30
20-50	3105.51	N.A.	35.20
40-70	3669.07	N.A.	41.50
60-80	2183.55	N.A.	24.70
70-80	997.42	N.A.	11.30
80-90	745.34	N.A.	8.40
90-110	711.71	N.A.	8.10
90-120	834.77	N.A.	9.40
90-130	877.57	N.A.	9.90
90-150	882.30	N.A.	10.00
90-180	882.30	N.A.	10.00
110-180	170.59	N.A.	1.90
0-180	8834.61	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	164.60
10-20	497.16
20-30	808.71
30-40	1070.00
40-50	1226.8
50-60	1256.14
60-70	1186.13
70-80	997.42
80-90	745.34
90-100	460.47
100-110	251.25
110-120	123.05
120-130	42.81
130-140	4.73
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	190	190	190	190	184	184	184	184	172	172	172	161	161	161	151	151	151	147
1	167	157	148	139	161	152	143	135	141	134	128	132	126	121	123	119	115	110
2	150	133	120	108	143	129	116	106	120	110	101	112	103	96	104	97	91	86
3	135	115	99	87	129	111	97	85	103	91	81	97	86	78	90	82	75	70
4	122	100	84	72	117	97	82	70	91	78	68	85	74	65	79	70	62	58
5	112	89	73	61	107	86	71	59	80	67	57	75	64	55	71	61	53	49
6	103	79	63	52	98	77	62	51	72	59	49	68	56	47	63	54	46	42
7	95	71	56	45	91	69	55	44	65	52	43	61	50	41	58	48	40	36
8	88	65	50	40	85	63	49	39	59	47	38	56	45	37	53	43	35	32
9	82	59	45	35	79	57	44	35	54	42	34	51	40	33	48	39	32	28
10	77	54	41	32	74	53	40	31	50	38	30	47	37	29	45	35	28	25

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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

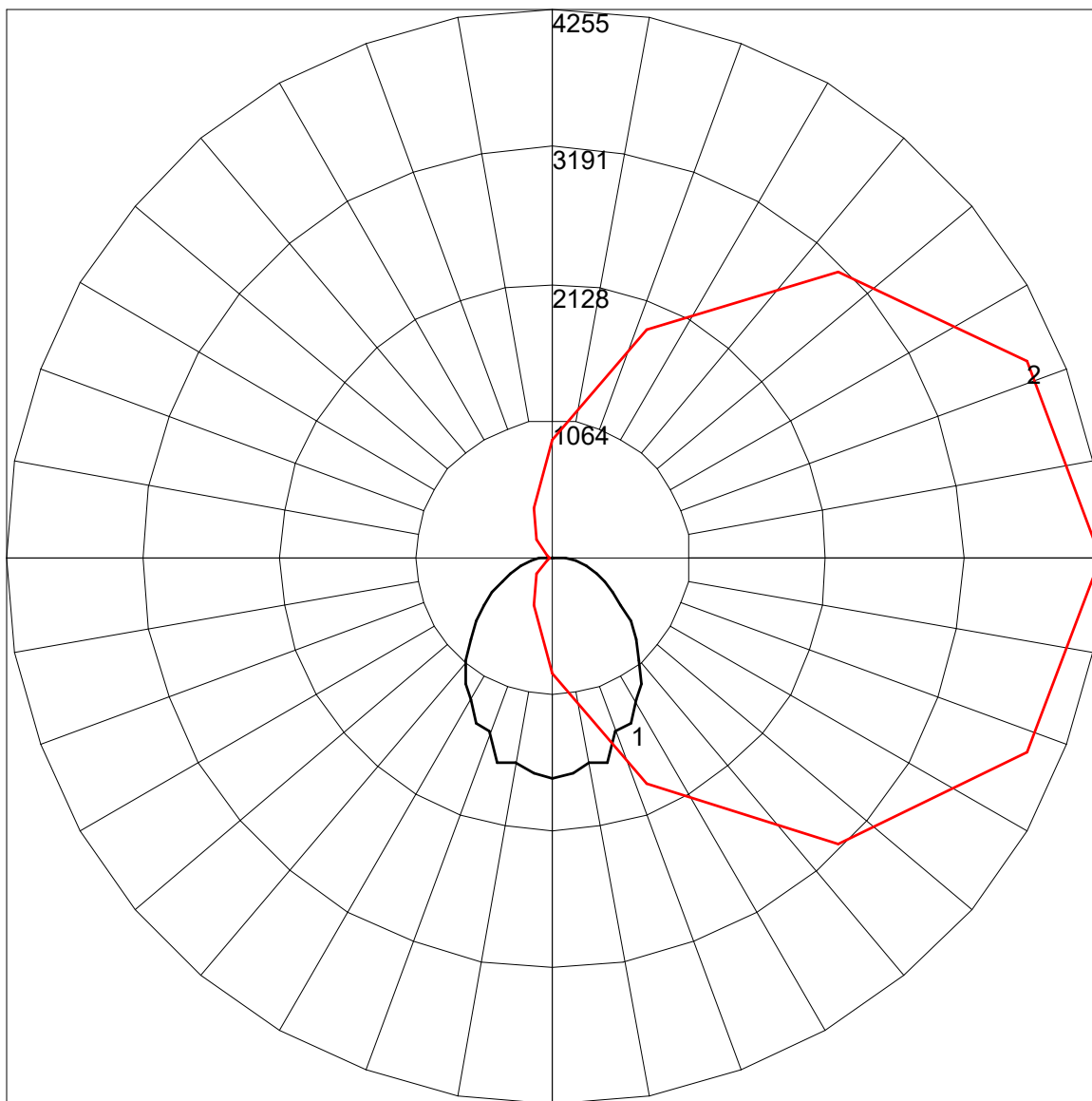
X=2H	Y=2H	24.4	25.9	24.9	26.4	27.0	13.6	15.2	14.1	15.7	16.3
	3H	27.4	28.9	27.9	29.4	30.0	14.8	16.2	15.3	16.8	17.3
	4H	28.8	30.2	29.4	30.7	31.3	15.2	16.5	15.7	17.1	17.7
	6H	30.3	31.6	30.8	32.1	32.7	15.4	16.7	16.0	17.2	17.9
	8H	31.0	32.2	31.6	32.8	33.4	15.5	16.7	16.0	17.3	17.9
	12H	31.7	32.9	32.3	33.5	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 = 4255.012 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.)