



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 18-4-L90-940-AF-(L50)-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 18321.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 05-16-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4'SURFACE MOUNT WRAP LED LUMINAIRE
 [MORE] WITH FROSTED PRISMATIC ACRYLIC DIFFUSER
 [LUMCAT] 18-4-L90-940-AF-(L50)-DIM-UNV
 [LAMPCAT] HLM 90 CRI, 4000K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] INDOOR, CLASSROOM, COMMERCIAL, INDUSTRIAL, MANUFACTURING, OFFICE, DIRECT
 [_SEARCH_MOUNTING] PENDANT, SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4233
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	30.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	1.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2956	2629	2472
55	2134	1830	1626
65	1311	1122	1173
75	962	850	939
85	700	805	1212

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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	1776.195	1776.195	1776.195	1776.195	1776.195
5	1737.117	1745.025	1763.634	1755.725	1746.886
10	1719.438	1717.578	1710.599	1706.412	1693.851
15	1655.704	1656.634	1662.682	1652.912	1645.004
20	1595.226	1598.947	1582.200	1598.017	1600.808
25	1504.043	1511.022	1516.604	1495.204	1493.343
30	1452.870	1423.561	1421.700	1422.631	1417.978
35	1357.966	1324.005	1322.609	1309.118	1301.209
40	1251.431	1215.144	1213.283	1192.349	1187.696
45	1108.145	1076.045	1046.736	1001.610	989.049
50	896.936	878.328	826.224	819.711	791.332
55	658.746	657.815	614.085	582.450	549.420
60	444.747	442.420	418.229	398.690	393.573
65	305.647	300.530	294.947	294.947	311.230
70	206.556	202.834	212.604	223.304	241.912
75	144.682	137.239	154.917	164.686	173.526
80	93.974	99.091	117.700	140.030	166.547
85	44.196	58.617	77.226	118.630	119.561
90	1.861	11.630	38.148	67.456	82.343
95	0.000	8.839	38.148	52.104	52.104
100	0.000	11.630	33.496	35.356	40.939
105	0.930	12.561	23.726	31.169	33.496
110	5.117	14.887	24.656	30.239	33.496
115	6.048	14.887	24.656	30.239	31.169
120	6.048	15.817	26.517	33.496	34.426
125	7.909	16.748	26.517	31.169	34.426
130	11.630	19.539	30.239	37.217	37.217
135	11.630	18.609	30.239	35.356	38.148
140	11.630	18.609	27.448	35.356	37.217
145	12.561	18.609	26.517	31.169	34.426
150	15.817	18.609	23.726	27.448	27.448
155	15.817	18.609	23.726	24.656	23.726
160	15.817	16.748	19.539	20.470	19.539
165	16.748	16.748	18.609	19.539	19.539
170	16.748	16.748	16.748	16.748	16.748
175	15.817	18.609	18.609	16.748	16.748
180	17.678	17.678	17.678	17.678	17.678

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	633.52	N.A.	15.00
0-30	1329.57	N.A.	31.40
0-40	2156.46	N.A.	50.90
0-60	3510.44	N.A.	82.90
0-80	3986.25	N.A.	94.20
0-90	4076.12	N.A.	96.30
10-90	3910.1	N.A.	92.40
20-40	1522.93	N.A.	36.00
20-50	2321.12	N.A.	54.80
40-70	1659.37	N.A.	39.20
60-80	475.82	N.A.	11.20
70-80	170.43	N.A.	4.00
80-90	89.87	N.A.	2.10
90-110	58.60	N.A.	1.40
90-120	81.05	N.A.	1.90
90-130	103.38	N.A.	2.40
90-150	140.08	N.A.	3.30
90-180	156.71	N.A.	3.70
110-180	98.11	N.A.	2.30
0-180	4232.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	166.02
10-20	467.51
20-30	696.05
30-40	826.89
40-50	798.18
50-60	555.80
60-70	305.39
70-80	170.43
80-90	89.87
90-100	34.83
100-110	23.77
110-120	22.45
120-130	22.33
130-140	21.09
140-150	15.62
150-160	9.86
160-170	5.12
170-180	1.65

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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	104	104	104	99	99	99	96
1	109	104	101	97	106	102	98	95	97	94	91	92	90	88	88	86	85	82
2	100	92	86	81	97	90	85	80	86	81	77	82	79	75	79	76	73	71
3	92	82	75	69	89	80	74	68	77	71	66	74	69	65	71	67	63	61
4	85	74	65	59	82	72	65	59	69	63	57	66	61	56	64	59	55	53
5	78	66	58	52	76	65	57	51	62	56	50	60	54	50	58	53	49	47
6	73	60	52	46	70	59	51	45	57	50	45	55	49	44	53	48	43	41
7	67	55	46	41	66	54	46	40	52	45	40	50	44	39	49	43	39	37
8	63	50	42	36	61	49	42	36	48	41	36	46	40	35	45	39	35	33
9	59	46	38	33	57	45	38	33	44	37	32	43	36	32	41	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	33	29	38	33	29	27

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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	13.1	14.5	13.5	14.9	15.4	12.5	13.9	12.9	14.3	14.7
	3H	13.9	15.2	14.4	15.7	16.1	13.8	15.1	14.2	15.5	15.9
	4H	14.2	15.5	14.7	15.9	16.4	14.3	15.5	14.8	16.0	16.5
	6H	14.5	15.6	15.0	16.1	16.5	15.1	16.2	15.6	16.6	17.1
	8H	14.6	15.6	15.1	16.1	16.6	15.5	16.5	16.0	17.0	17.5
	12H	14.6	15.6	15.1	16.1	16.6	15.9	16.9	16.4	17.4	17.9

UGR Viewed Endwise

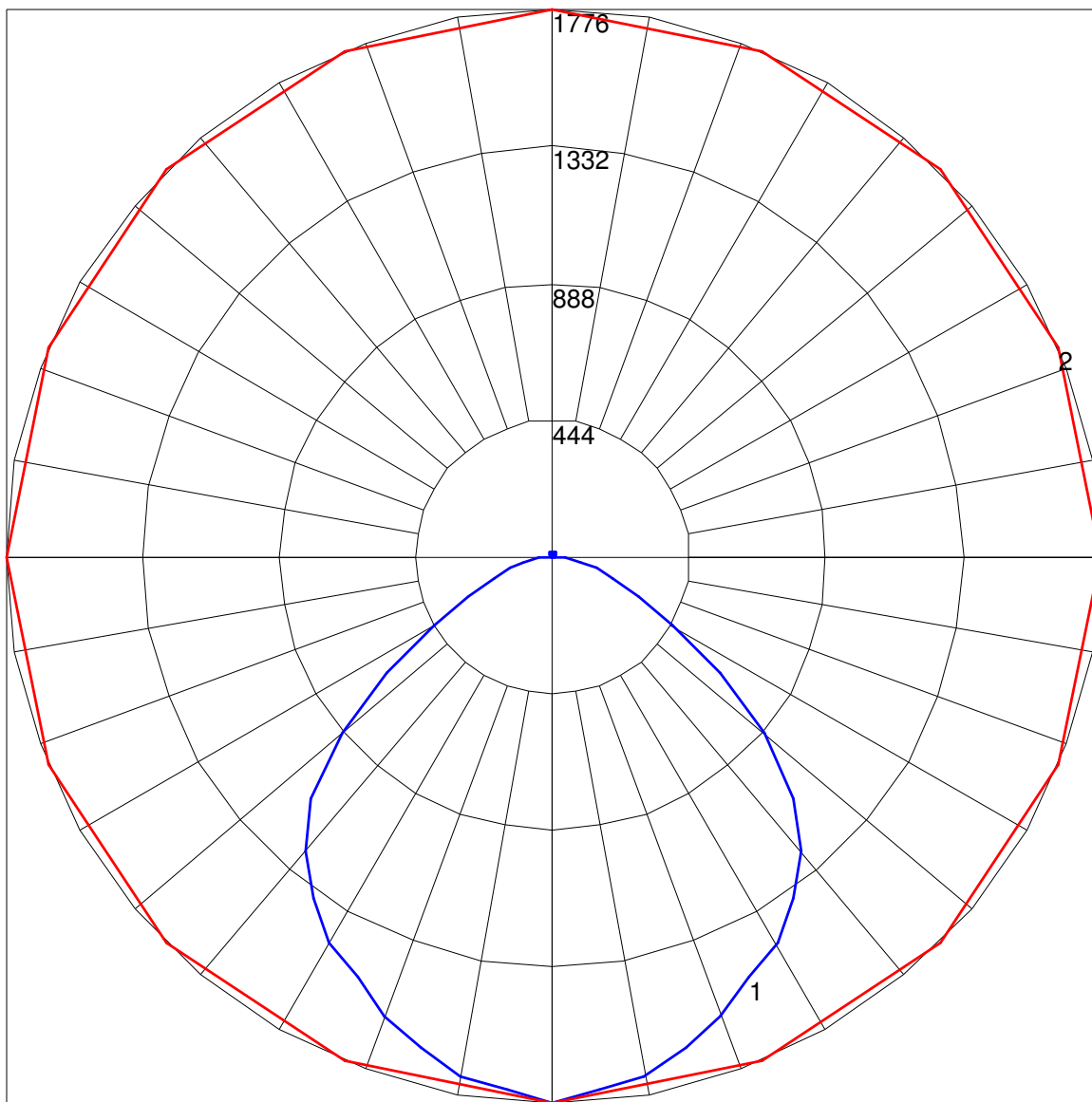
4H	2H	13.4	14.6	13.8	15.0	15.5	12.8	14.0	13.3	14.5	14.9
	3H	14.4	15.4	14.9	15.9	16.4	14.3	15.3	14.8	15.8	16.3
	4H	14.8	15.7	15.3	16.2	16.7	15.0	15.9	15.5	16.4	16.9
	6H	15.2	16.0	15.7	16.5	17.0	16.0	16.7	16.5	17.2	17.8
	8H	15.3	16.0	15.8	16.5	17.1	16.5	17.2	17.0	17.7	18.3
	12H	15.4	16.0	15.9	16.6	17.1	17.0	17.7	17.6	18.2	18.8

8H	4H	15.0	15.7	15.5	16.2	16.8	15.2	15.9	15.7	16.4	17.0
	6H	15.5	16.1	16.0	16.7	17.2	16.3	16.9	16.8	17.5	18.0
	8H	15.7	16.2	16.3	16.8	17.4	16.9	17.5	17.5	18.1	18.6
	12H	15.8	16.3	16.4	16.9	17.5	17.7	18.2	18.2	18.7	19.4

12H	4H	15.0	15.7	15.6	16.2	16.8	15.2	15.9	15.7	16.4	17.0
	6H	15.6	16.1	16.2	16.7	17.3	16.3	16.9	16.9	17.4	18.0
	8H	15.8	16.3	16.4	16.9	17.5	17.0	17.5	17.6	18.1	18.7

Maximum UGR = 19.4

POLAR GRAPH



Maximum Candela = 1776.195 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.)