



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-840-DFR-(L60)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20008.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 02-11-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' VAPORTITE LED LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/DROP FROSTED LENS
 [LUMCAT] 96-4-L62-840-DFR-(L60)-DIM-UNV
 [LAMPCAT] HLM 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6497
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	152
Total Luminaire Watts	42.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.17 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9527	7885	7525
55	7956	6516	6406
65	6089	5366	5834
75	3978	4466	5265
85	1538	3664	4394

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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	2340.841	2340.841	2340.841	2340.841	2340.841
5	2375.177	2328.723	2320.644	2311.556	2305.497
10	2339.832	2294.388	2269.142	2247.935	2233.797
15	2281.260	2226.728	2190.373	2160.078	2140.890
20	2194.413	2130.792	2090.398	2030.816	2005.570
25	2086.358	2010.619	1962.146	1891.456	1883.378
30	1952.048	1871.259	1822.786	1788.451	1799.560
35	1797.540	1714.732	1682.417	1694.535	1720.791
40	1607.688	1526.899	1547.096	1551.136	1576.382
45	1383.500	1329.978	1392.589	1387.539	1402.687
50	1162.342	1140.125	1202.736	1219.904	1222.933
55	952.292	963.401	1016.923	1063.376	1072.465
60	752.341	791.726	849.287	937.144	950.273
65	551.380	605.912	701.849	809.903	836.159
70	379.705	438.277	574.607	686.701	725.075
75	233.276	298.917	453.424	572.587	604.903
80	115.123	192.882	346.380	461.503	477.661
85	38.374	120.173	253.473	357.488	364.557
90	15.148	77.759	186.823	266.601	274.680
95	14.138	53.522	151.478	209.040	219.138
100	12.118	33.325	115.123	162.586	173.695
105	8.079	19.187	84.828	126.232	139.360
110	5.049	7.069	60.591	97.956	109.064
115	4.039	2.020	39.384	72.709	85.838
120	2.020	1.010	24.236	52.512	61.601
125	0.000	0.000	8.079	32.315	42.414
130	0.000	0.000	0.000	15.148	24.236
135	0.000	0.000	0.000	5.049	9.089
140	0.000	0.000	0.000	4.039	4.039
145	0.000	0.000	0.000	2.020	2.020
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	838.74	N.A.	12.90
0-30	1744.66	N.A.	26.90
0-40	2812.84	N.A.	43.30
0-60	4785.14	N.A.	73.60
0-80	5949.51	N.A.	91.60
0-90	6211.1	N.A.	95.60
10-90	5990.76	N.A.	92.20
20-40	1974.1	N.A.	30.40
20-50	3034.86	N.A.	46.70
40-70	2672.11	N.A.	41.10
60-80	1164.37	N.A.	17.90
70-80	464.56	N.A.	7.20
80-90	261.59	N.A.	4.00
90-110	227.86	N.A.	3.50
90-120	268.35	N.A.	4.10
90-130	283.07	N.A.	4.40
90-150	286.15	N.A.	4.40
90-180	286.15	N.A.	4.40
110-180	58.29	N.A.	0.90
0-180	6497.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	220.33
10-20	618.40
20-30	905.93
30-40	1068.17
40-50	1060.76
50-60	911.54
60-70	699.82
70-80	464.56
80-90	261.59
90-100	146.10
100-110	81.77
110-120	40.49
120-130	14.72
130-140	2.59
140-150	0.49
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	96
1	107	102	97	93	104	99	95	91	94	91	88	89	87	84	85	83	81	78
2	97	89	82	76	94	86	80	75	82	77	72	78	74	70	75	71	68	65
3	89	78	70	63	86	76	68	62	72	66	61	69	64	59	66	61	57	55
4	81	69	60	54	79	68	59	53	65	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	61	52	46	58	51	45	56	49	44	53	48	43	41
6	69	56	47	41	67	55	46	40	52	45	39	50	44	39	48	43	38	36
7	64	51	42	36	62	50	41	36	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	31	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

X=2H	Y=2H	17.2	18.7	17.6	19.1	19.5	18.9	20.4	19.3	20.8	21.2
	3H	18.3	19.7	18.7	20.1	20.6	21.2	22.6	21.6	23.0	23.5
	4H	18.6	19.9	19.0	20.3	20.8	22.3	23.6	22.7	24.0	24.5
	6H	18.7	20.0	19.2	20.4	20.9	23.3	24.6	23.8	25.0	25.5
	8H	18.7	19.9	19.2	20.4	20.9	23.8	25.0	24.3	25.5	26.0
	12H	18.7	19.9	19.2	20.3	20.9	24.3	25.5	24.8	25.9	26.5

UGR Viewed Endwise

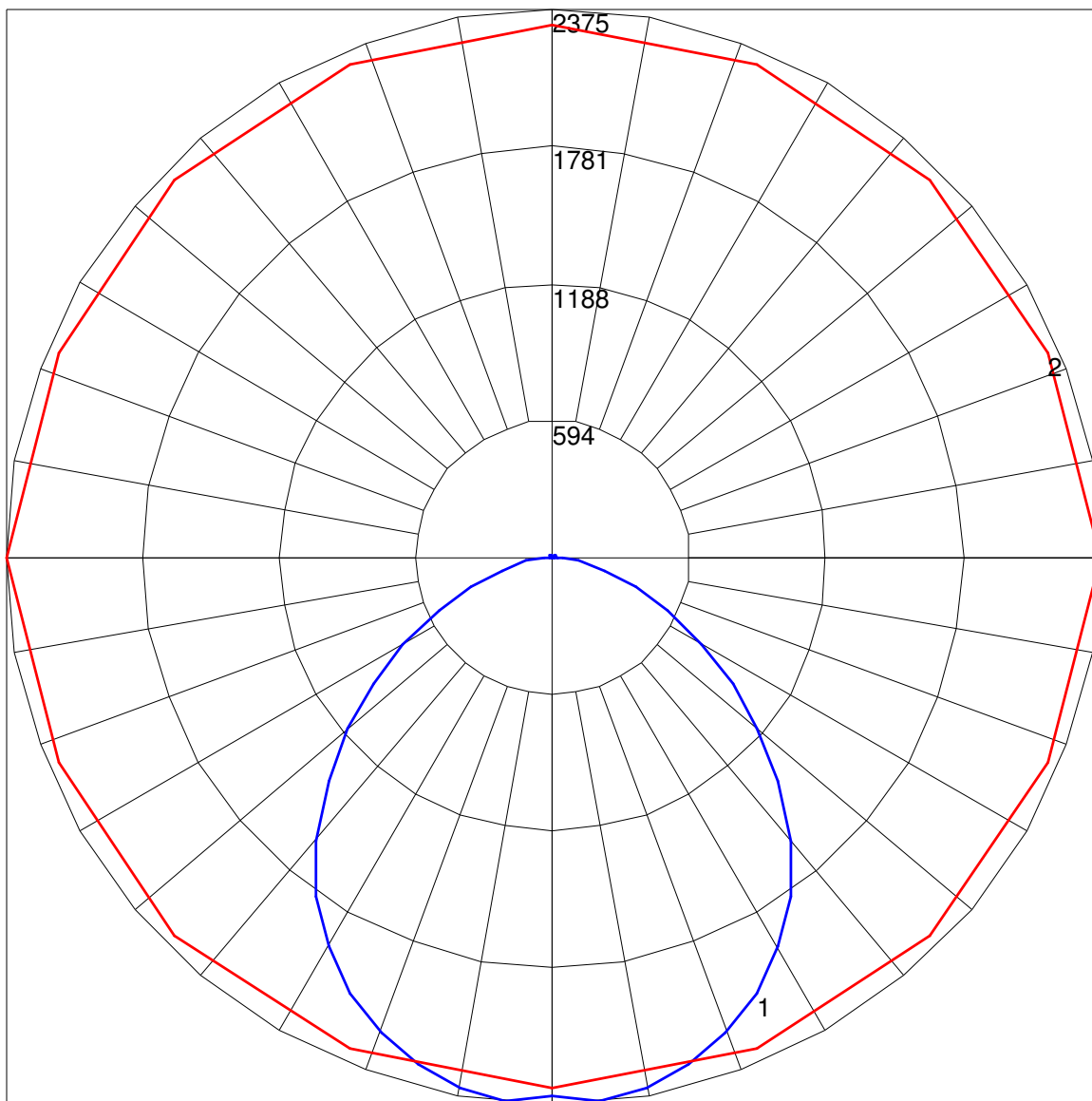
4H	2H	17.9	19.2	18.3	19.6	20.1	19.3	20.6	19.7	21.0	21.5
	3H	19.2	20.4	19.7	20.8	21.3	21.8	22.9	22.3	23.4	23.9
	4H	19.7	20.7	20.2	21.2	21.7	23.1	24.1	23.6	24.6	25.1
	6H	19.9	20.8	20.4	21.3	21.8	24.3	25.2	24.8	25.7	26.3
	8H	19.9	20.8	20.4	21.3	21.8	24.9	25.7	25.4	26.3	26.8
	12H	20.0	20.7	20.5	21.3	21.8	25.5	26.3	26.1	26.8	27.4

8H	4H	20.2	21.1	20.8	21.6	22.2	23.2	24.1	23.7	24.6	25.1
	6H	20.6	21.3	21.2	21.9	22.5	24.6	25.3	25.2	25.9	26.5
	8H	20.7	21.4	21.3	22.0	22.5	25.4	26.0	25.9	26.6	27.2
	12H	20.8	21.4	21.4	21.9	22.6	26.2	26.7	26.7	27.3	27.9

12H	4H	20.4	21.2	21.0	21.7	22.3	23.2	24.0	23.8	24.5	25.1
	6H	20.9	21.5	21.5	22.1	22.7	24.6	25.3	25.2	25.8	26.5
	8H	21.1	21.7	21.6	22.2	22.9	25.4	26.0	26.0	26.6	27.2

Maximum UGR = 27.9

POLAR GRAPH



Maximum Candela = 2375.177 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.)