



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 96-4-L62-940-DCL-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20011.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 03-JAN-2024
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' ENCLOSED & GASKETED LED LUMINAIRE
[MORE] WHITE FLAT REFLECTOR w/DROP CLEAR LENS
[MORE] 0-10V DIMMING DRIVER
[LUMCAT] 96-4-L64-940-DCL-DRV-UNV
[LAMPCAT] HLMX 90 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5660
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	118
Total Luminaire Watts	48
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.27 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8854	6920	6414
55	8011	5345	5250
65	6726	4473	3951
75	3760	2956	2865
85	1090	754	658

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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	1904.625	1904.625	1904.625	1904.625	1904.625
5	1897.966	1910.453	1877.987	1856.344	1863.836
10	1872.993	1846.355	1876.322	1913.782	1889.642
15	1836.365	1842.192	1879.652	1673.207	1689.023
20	1784.754	1775.597	1668.212	1806.397	1631.585
25	1724.818	1766.440	1748.127	1694.850	1728.980
30	1652.396	1819.716	1604.947	1701.510	1584.136
35	1557.498	1525.865	1621.595	1648.234	1622.428
40	1449.280	1255.321	1540.849	1500.059	1427.637
45	1316.090	1236.175	1381.020	1382.685	1381.852
50	1151.266	1023.070	1151.266	1221.191	1157.926
55	990.605	973.956	976.454	1023.070	1055.535
60	815.792	868.236	818.290	908.193	876.561
65	638.482	670.948	716.732	735.878	713.402
70	438.697	452.016	544.417	591.866	562.730
75	238.078	295.517	392.912	440.361	442.859
80	98.228	183.970	222.262	205.613	189.797
85	32.465	79.082	76.585	91.569	81.579
90	12.487	29.135	40.790	49.946	54.941
95	10.822	29.135	23.308	28.303	29.135
100	13.319	35.795	23.308	23.308	23.308
105	12.487	10.822	103.223	50.779	28.303
110	10.822	6.660	16.649	119.872	114.877
115	9.157	5.827	7.492	20.811	54.941
120	4.162	3.330	4.995	9.989	13.319
125	3.330	3.330	3.330	4.995	5.827
130	0.000	0.000	3.330	4.995	5.827
135	0.000	0.000	3.330	4.162	5.827
140	0.000	0.000	0.000	4.162	4.995
145	0.000	0.000	0.000	0.000	4.162
150	0.000	0.000	0.000	0.000	3.330
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	688.28	N.A.	12.20
0-30	1485.43	N.A.	26.20
0-40	2474.35	N.A.	43.70
0-60	4381.83	N.A.	77.40
0-80	5451.91	N.A.	96.30
0-90	5555.26	N.A.	98.10
10-90	5375.46	N.A.	95.00
20-40	1786.07	N.A.	31.60
20-50	2799.18	N.A.	49.50
40-70	2596.19	N.A.	45.90
60-80	1070.08	N.A.	18.90
70-80	381.36	N.A.	6.70
80-90	103.35	N.A.	1.80
90-110	75.79	N.A.	1.30
90-120	98.68	N.A.	1.70
90-130	102.68	N.A.	1.80
90-150	105.07	N.A.	1.90
90-180	105.12	N.A.	1.90
110-180	29.33	N.A.	0.50
0-180	5660.38	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	179.80
10-20	508.48
20-30	797.15
30-40	988.92
40-50	1013.11
50-60	894.37
60-70	688.71
70-80	381.36
80-90	103.35
90-100	31.09
100-110	44.69
110-120	22.90
120-130	3.99
130-140	1.88
140-150	0.50
150-160	0.05
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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	104	99	95	105	101	97	94	96	93	90	92	90	87	88	86	84	82
2	98	90	83	78	96	88	82	76	84	79	74	81	76	72	77	74	71	68
3	90	79	71	64	87	77	70	64	74	68	62	71	66	61	68	64	60	57
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	55	51	49
5	75	62	53	47	73	61	53	46	59	51	46	57	50	45	55	49	44	42
6	70	56	47	41	67	55	47	40	53	46	40	51	45	39	49	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	41	35	31	29
9	56	42	34	29	54	42	34	29	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

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UGR TABLE - CORRECTED

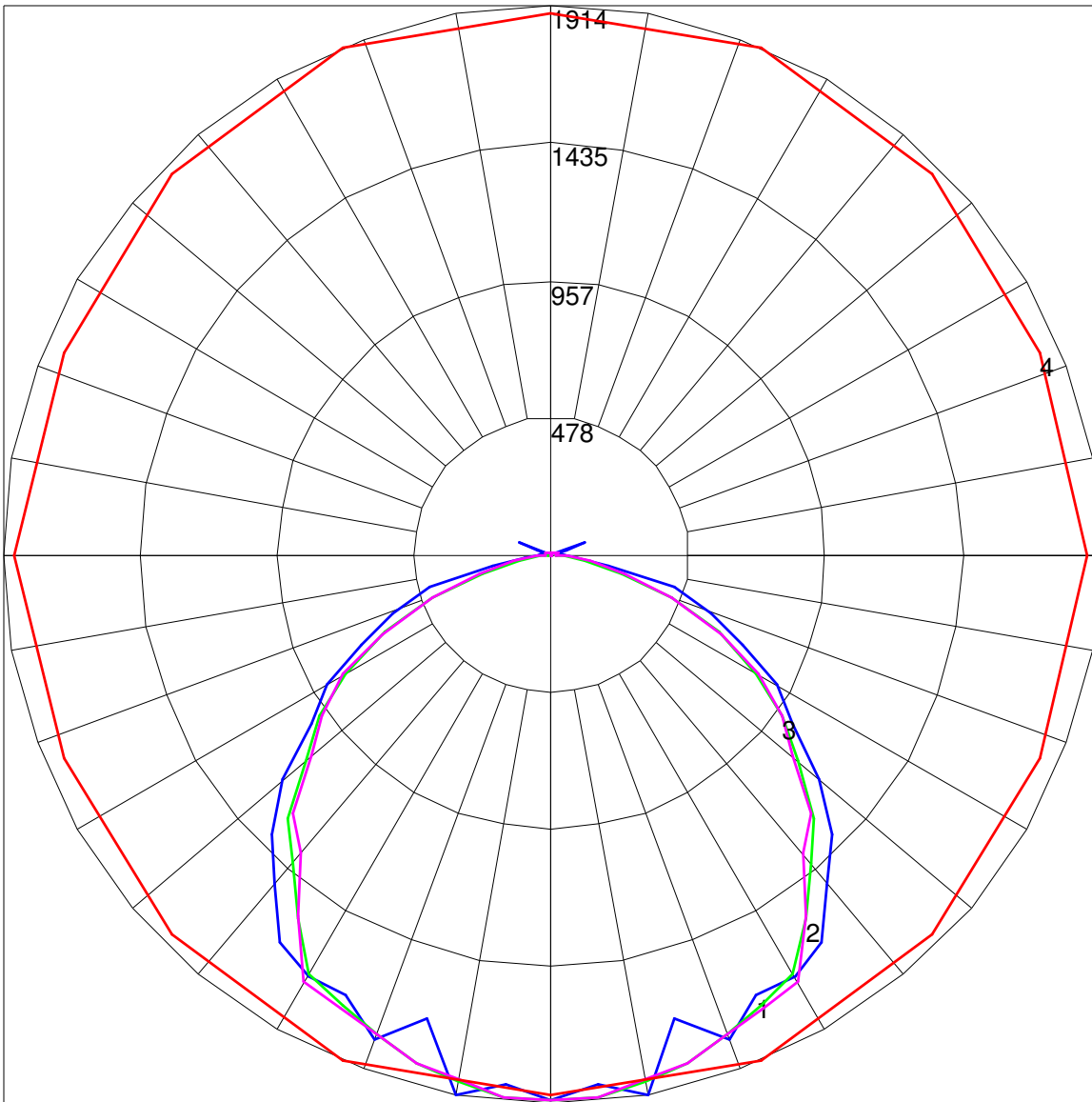
Reflectances

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	17.4	19.0	17.8	19.3	19.7	18.8	20.4	19.2	20.7	21.1
	3H	18.6	20.0	19.0	20.4	20.8	20.6	22.1	21.0	22.4	22.8
	4H	18.8	20.2	19.2	20.6	21.0	21.4	22.7	21.8	23.1	23.6
	6H	18.9	20.2	19.4	20.6	21.0	21.8	23.0	22.2	23.4	23.9
	8H	18.9	20.1	19.4	20.5	21.0	21.8	23.1	22.3	23.5	23.9
	12H	18.9	20.0	19.4	20.5	20.9	21.9	23.0	22.4	23.5	23.9
4H	2H	18.1	19.4	18.5	19.8	20.2	19.2	20.5	19.6	20.9	21.4
	3H	19.4	20.5	19.8	21.0	21.4	21.2	22.4	21.7	22.8	23.2
	4H	19.7	20.8	20.2	21.2	21.7	22.1	23.1	22.6	23.6	24.1
	6H	19.9	20.8	20.4	21.3	21.8	22.6	23.5	23.1	24.0	24.5
	8H	19.9	20.8	20.4	21.3	21.8	22.7	23.5	23.2	24.0	24.5
	12H	19.9	20.7	20.4	21.2	21.7	22.7	23.5	23.3	24.0	24.5
8H	4H	20.1	20.9	20.6	21.4	21.9	22.2	23.1	22.7	23.6	24.1
	6H	20.4	21.1	20.9	21.6	22.1	22.8	23.5	23.3	24.0	24.5
	8H	20.4	21.0	20.9	21.6	22.1	22.9	23.5	23.4	24.1	24.6
	12H	20.4	21.0	21.0	21.5	22.1	23.0	23.5	23.5	24.1	24.7
12H	4H	20.1	20.9	20.6	21.4	21.9	22.2	23.0	22.7	23.5	24.0
	6H	20.4	21.0	21.0	21.5	22.1	22.8	23.4	23.3	23.9	24.5
	8H	20.5	21.0	21.0	21.6	22.2	22.9	23.5	23.5	24.0	24.6

Maximum UGR = 24.7

POLAR GRAPH



Maximum Candela = 1913.782 Located At Horizontal Angle = 67.5, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (5 - 185)
3 - Vertical Plane Through Horizontal Angles (10 - 190)
4 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)