



IES INDOOR REPORT

PHOTOMETRIC FILENAME : NW-4-L74-835-RA-(L67)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20990.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 2024-04-12

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 48 INCH LINEAR LED SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS

[MORE] 0-10V DIMMING DRIVER

[LUMCAT] NW-4-L74-835-RA-(L67)-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6782
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
Total Luminaire Watts	49.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	11866	10875	11160
55	10119	9425	9923
65	8139	7807	8592
75	6313	6619	7424
85	2962	5967	6911

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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	2190.043	2190.043	2190.043	2190.043	2190.043
5	2208.405	2179.449	2173.799	2173.799	2167.443
10	2168.149	2143.431	2144.844	2150.494	2143.431
15	2095.407	2076.339	2091.876	2108.826	2106.707
20	2001.477	1993.709	2019.133	2050.208	2051.620
25	1871.530	1880.005	1925.910	1966.872	1977.465
30	1734.520	1749.351	1815.031	1867.998	1888.479
35	1563.610	1598.216	1685.083	1754.294	1778.306
40	1400.469	1437.900	1542.423	1639.178	1661.777
45	1206.960	1261.340	1388.463	1492.986	1521.236
50	1026.163	1093.256	1232.385	1347.501	1378.576
55	847.485	913.165	1072.775	1192.129	1228.853
60	677.988	752.143	915.990	1026.163	1067.831
65	514.847	593.240	753.556	894.097	924.465
70	379.956	449.167	617.252	753.556	789.574
75	257.777	334.757	504.960	627.139	653.976
80	143.366	237.296	403.968	514.847	552.984
85	50.849	160.316	320.632	423.743	455.523
90	0.000	105.936	250.008	351.000	371.481
95	0.000	67.799	197.040	287.439	318.513
100	0.000	45.199	151.135	238.002	262.720
105	0.000	30.368	119.354	192.097	219.640
110	0.000	14.125	94.636	157.491	183.622
115	0.000	9.181	75.567	132.773	151.135
120	0.000	0.000	60.030	108.761	127.829
125	0.000	0.000	46.612	86.867	101.698
130	0.000	0.000	36.724	68.505	81.217
135	0.000	0.000	29.662	52.968	64.974
140	0.000	0.000	15.537	40.256	49.437
145	0.000	0.000	5.650	31.074	36.018
150	0.000	0.000	0.000	26.837	30.368
155	0.000	0.000	0.000	25.425	26.837
160	0.000	0.000	0.000	14.831	24.718
165	0.000	0.000	0.000	4.944	8.475
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	798.03	N.A.	11.80
0-30	1684.67	N.A.	24.80
0-40	2734.68	N.A.	40.30
0-60	4742.77	N.A.	69.90
0-80	5991.16	N.A.	88.30
0-90	6312.37	N.A.	93.10
10-90	6105.33	N.A.	90.00
20-40	1936.65	N.A.	28.60
20-50	3000.75	N.A.	44.20
40-70	2744.45	N.A.	40.50
60-80	1248.39	N.A.	18.40
70-80	512.03	N.A.	7.60
80-90	321.21	N.A.	4.70
90-110	317.54	N.A.	4.70
90-120	390.71	N.A.	5.80
90-130	432.76	N.A.	6.40
90-150	464.20	N.A.	6.80
90-180	469.38	N.A.	6.90
110-180	151.84	N.A.	2.20
0-180	6781.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	207.03
10-20	590.99
20-30	886.64
30-40	1050.01
40-50	1064.1
50-60	943.99
60-70	736.36
70-80	512.03
80-90	321.21
90-100	196.58
100-110	120.96
110-120	73.17
120-130	42.05
130-140	22.24
140-150	9.20
150-160	4.29
160-170	0.89
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	90	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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UGR TABLE - CORRECTED

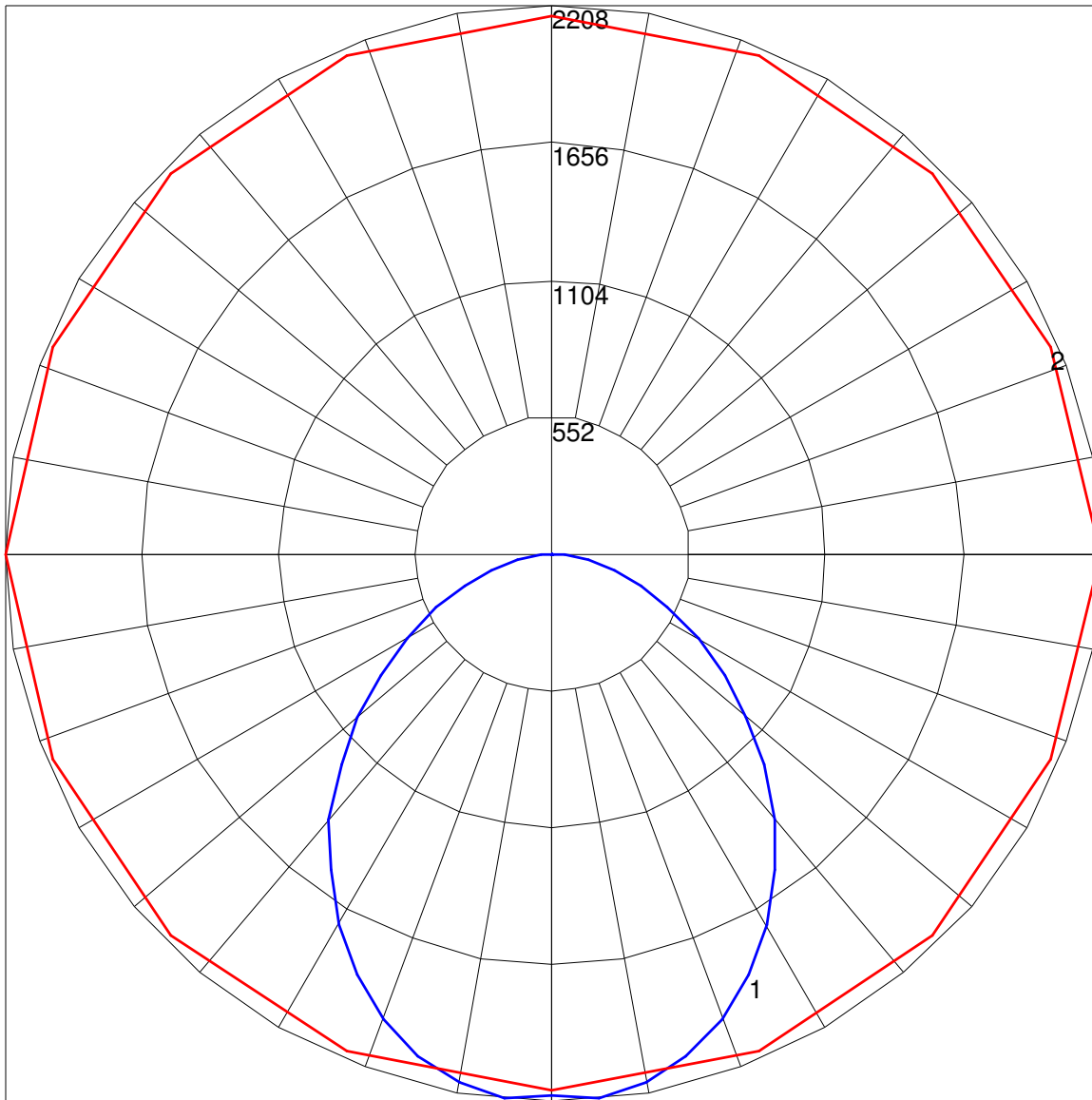
Reflectances

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	17.6	19.1	18.0	19.5	20.0	20.6	22.1	21.1	22.5	23.0
	3H	18.8	20.1	19.3	20.6	21.1	22.8	24.2	23.3	24.7	25.2
	4H	19.2	20.5	19.7	20.9	21.5	23.9	25.2	24.4	25.7	26.2
	6H	19.4	20.6	19.9	21.1	21.6	25.0	26.2	25.5	26.7	27.2
	8H	19.4	20.6	20.0	21.1	21.7	25.6	26.7	26.1	27.2	27.8
	12H	19.4	20.5	20.0	21.1	21.7	26.2	27.3	26.7	27.8	28.4
4H	2H	18.5	19.8	19.0	20.3	20.8	20.9	22.2	21.4	22.7	23.2
	3H	20.0	21.1	20.5	21.6	22.2	23.4	24.5	23.9	25.0	25.6
	4H	20.5	21.5	21.0	22.0	22.6	24.6	25.6	25.1	26.2	26.8
	6H	20.8	21.7	21.3	22.2	22.9	25.9	26.8	26.5	27.4	28.0
	8H	20.9	21.7	21.4	22.3	22.9	26.6	27.4	27.1	28.0	28.6
	12H	20.9	21.7	21.5	22.3	22.9	27.3	28.1	27.9	28.7	29.3
8H	4H	21.2	22.0	21.8	22.6	23.2	24.8	25.6	25.3	26.2	26.8
	6H	21.7	22.4	22.3	23.0	23.7	26.2	26.9	26.8	27.5	28.2
	8H	21.9	22.5	22.5	23.1	23.8	27.0	27.7	27.6	28.3	28.9
	12H	22.0	22.6	22.6	23.2	23.9	28.0	28.5	28.6	29.1	29.8
12H	4H	21.4	22.2	22.0	22.8	23.4	24.8	25.5	25.4	26.1	26.8
	6H	22.0	22.7	22.7	23.3	23.9	26.3	26.9	26.9	27.5	28.2
	8H	22.3	22.9	22.9	23.5	24.2	27.1	27.7	27.7	28.3	29.0

Maximum UGR = 29.8

POLAR GRAPH



Maximum Candela = 2208.405 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.)