



IES INDOOR REPORT
PHOTOMETRIC FILENAME : NW-4-L74-840-RA-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] 2023-08-09
[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-L74-840-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7629
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
Total Luminaire Watts	55.6
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	13349	12234	12554
55	11383	10602	11163
65	9156	8782	9665
75	7102	7446	8351
85	3332	6713	7775

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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	2463.624	2463.624	2463.624	2463.624	2463.624
5	2484.280	2451.707	2445.351	2445.351	2438.201
10	2438.995	2411.189	2412.778	2419.134	2411.189
15	2357.166	2335.716	2353.194	2372.261	2369.877
20	2251.503	2242.764	2271.364	2306.320	2307.909
25	2105.322	2114.855	2166.495	2212.574	2224.491
30	1951.196	1967.880	2041.765	2101.350	2124.389
35	1758.937	1797.865	1895.584	1973.441	2000.453
40	1575.416	1617.523	1735.103	1843.944	1869.367
45	1357.734	1418.907	1561.910	1679.491	1711.269
50	1154.352	1229.826	1386.335	1515.832	1550.788
55	953.353	1027.238	1206.786	1341.050	1382.362
60	762.683	846.101	1030.416	1154.352	1201.225
65	579.162	667.347	847.690	1005.788	1039.950
70	427.420	505.277	694.359	847.690	888.207
75	289.978	376.575	568.040	705.481	735.671
80	161.276	266.939	454.432	579.162	622.063
85	57.201	180.343	360.685	476.677	512.427
90	0.000	119.169	281.239	394.847	417.887
95	0.000	76.268	221.655	323.346	358.302
100	0.000	50.846	170.015	267.733	295.540
105	0.000	34.162	134.264	216.093	247.077
110	0.000	15.889	106.458	177.165	206.560
115	0.000	10.328	85.007	149.359	170.015
120	0.000	0.000	67.529	122.347	143.797
125	0.000	0.000	52.434	97.719	114.402
130	0.000	0.000	41.312	77.063	91.363
135	0.000	0.000	33.367	59.585	73.090
140	0.000	0.000	17.478	45.284	55.612
145	0.000	0.000	6.356	34.956	40.518
150	0.000	0.000	0.000	30.190	34.162
155	0.000	0.000	0.000	28.601	30.190
160	0.000	0.000	0.000	16.684	27.806
165	0.000	0.000	0.000	5.561	9.534
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	897.72	N.A.	11.80
0-30	1895.12	N.A.	24.80
0-40	3076.3	N.A.	40.30
0-60	5335.24	N.A.	69.90
0-80	6739.58	N.A.	88.30
0-90	7100.91	N.A.	93.10
10-90	6868.02	N.A.	90.00
20-40	2178.58	N.A.	28.60
20-50	3375.61	N.A.	44.20
40-70	3087.29	N.A.	40.50
60-80	1404.33	N.A.	18.40
70-80	575.99	N.A.	7.60
80-90	361.33	N.A.	4.70
90-110	357.21	N.A.	4.70
90-120	439.52	N.A.	5.80
90-130	486.82	N.A.	6.40
90-150	522.19	N.A.	6.80
90-180	528.01	N.A.	6.90
110-180	170.80	N.A.	2.20
0-180	7628.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	232.89
10-20	664.82
20-30	997.40
30-40	1181.18
40-50	1197.03
50-60	1061.92
60-70	828.34
70-80	575.99
80-90	361.33
90-100	221.13
100-110	136.07
110-120	82.32
120-130	47.30
130-140	25.02
140-150	10.35
150-160	4.83
160-170	1.00
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	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

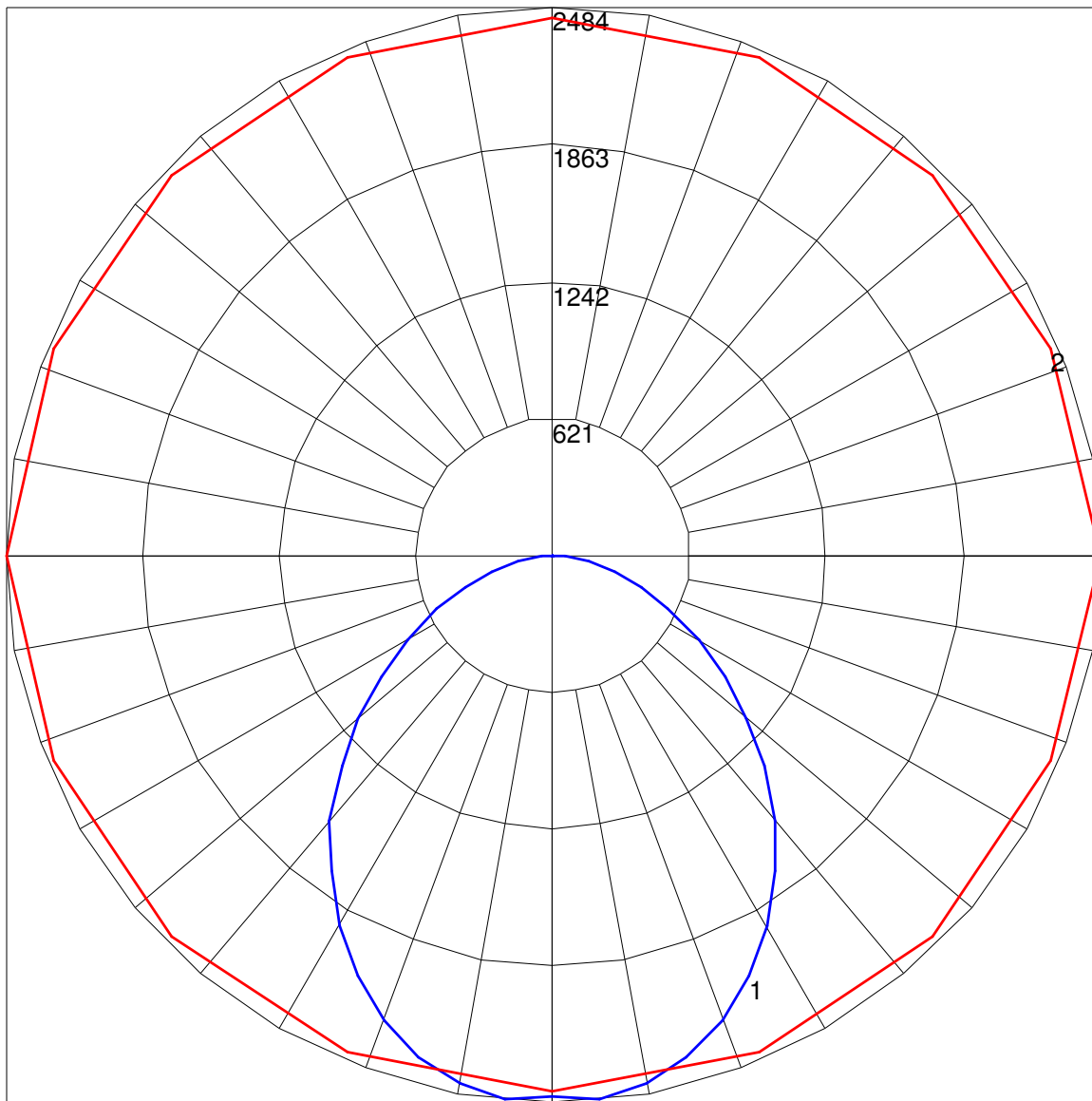
Reflectances

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	18.0	19.5	18.4	19.9	20.4	21.0	22.5	21.5	22.9	23.4
	3H	19.2	20.5	19.7	21.0	21.5	23.2	24.6	23.7	25.1	25.6
	4H	19.6	20.9	20.1	21.3	21.9	24.3	25.6	24.8	26.1	26.6
	6H	19.8	21.0	20.3	21.5	22.0	25.4	26.6	25.9	27.1	27.6
	8H	19.8	21.0	20.4	21.5	22.1	26.0	27.1	26.5	27.6	28.2
	12H	19.8	20.9	20.4	21.5	22.1	26.6	27.7	27.1	28.2	28.8
4H	2H	18.9	20.2	19.4	20.7	21.2	21.3	22.6	21.8	23.1	23.6
	3H	20.4	21.5	20.9	22.0	22.6	23.8	24.9	24.3	25.4	26.0
	4H	20.9	21.9	21.4	22.4	23.0	25.0	26.0	25.5	26.6	27.2
	6H	21.2	22.1	21.7	22.6	23.3	26.3	27.2	26.9	27.8	28.4
	8H	21.3	22.1	21.8	22.7	23.3	27.0	27.8	27.5	28.4	29.0
	12H	21.3	22.1	21.9	22.7	23.3	27.7	28.5	28.3	29.1	29.7
8H	4H	21.6	22.4	22.2	23.0	23.6	25.2	26.0	25.7	26.6	27.2
	6H	22.1	22.8	22.7	23.4	24.1	26.6	27.3	27.2	27.9	28.6
	8H	22.3	22.9	22.9	23.5	24.2	27.4	28.1	28.0	28.7	29.3
	12H	22.4	23.0	23.0	23.6	24.3	28.4	28.9	29.0	29.5	30.2
12H	4H	21.8	22.6	22.4	23.2	23.8	25.2	25.9	25.8	26.5	27.2
	6H	22.4	23.1	23.1	23.7	24.3	26.7	27.3	27.3	27.9	28.6
	8H	22.7	23.3	23.3	23.9	24.6	27.5	28.1	28.1	28.7	29.4

Maximum UGR = 30.2

POLAR GRAPH



Maximum Candela = 2484.28 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.)