



IES INDOOR REPORT
PHOTOMETRIC FILENAME : NW-4-L74-850-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-L74-850-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7851
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
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	13737	12590	12920
55	11714	10911	11488
65	9423	9038	9947
75	7309	7663	8594
85	3429	6908	8001

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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	2535.380	2535.380	2535.380	2535.380	2535.380
5	2556.637	2523.116	2516.575	2516.575	2509.217
10	2510.034	2481.418	2483.053	2489.594	2481.418
15	2425.821	2403.746	2421.733	2441.356	2438.903
20	2317.080	2308.087	2337.520	2373.495	2375.130
25	2166.642	2176.453	2229.597	2277.018	2289.282
30	2008.027	2025.197	2101.234	2162.554	2186.264
35	1810.168	1850.230	1950.795	2030.920	2058.719
40	1621.302	1664.635	1785.640	1897.651	1923.815
45	1397.280	1460.235	1607.403	1728.408	1761.112
50	1187.974	1265.646	1426.713	1559.982	1595.957
55	981.121	1057.158	1241.936	1380.110	1422.625
60	784.897	870.745	1060.428	1187.974	1236.212
65	596.031	686.785	872.380	1035.083	1070.239
70	439.869	519.994	714.583	872.380	914.078
75	298.424	387.543	584.585	726.029	757.098
80	165.973	274.714	467.668	596.031	640.181
85	58.867	185.595	371.191	490.560	527.352
90	0.000	122.640	289.431	406.348	430.058
95	0.000	78.490	228.111	332.763	368.738
100	0.000	52.326	174.967	275.531	304.147
105	0.000	35.157	138.175	222.387	254.274
110	0.000	16.352	109.558	182.325	212.576
115	0.000	10.629	87.483	153.709	174.967
120	0.000	0.000	69.496	125.911	147.986
125	0.000	0.000	53.962	100.565	117.735
130	0.000	0.000	42.515	79.307	94.024
135	0.000	0.000	34.339	61.320	75.219
140	0.000	0.000	17.987	46.603	57.232
145	0.000	0.000	6.541	35.974	41.698
150	0.000	0.000	0.000	31.069	35.157
155	0.000	0.000	0.000	29.434	31.069
160	0.000	0.000	0.000	17.170	28.616
165	0.000	0.000	0.000	5.723	9.811
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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Zone	Lumens	%Lamp	%Fixt
0-20	923.86	N.A.	11.80
0-30	1950.31	N.A.	24.80
0-40	3165.9	N.A.	40.30
0-60	5490.64	N.A.	69.90
0-80	6935.87	N.A.	88.30
0-90	7307.73	N.A.	93.10
10-90	7068.05	N.A.	90.00
20-40	2242.04	N.A.	28.60
20-50	3473.93	N.A.	44.20
40-70	3177.21	N.A.	40.50
60-80	1445.24	N.A.	18.40
70-80	592.77	N.A.	7.60
80-90	371.86	N.A.	4.70
90-110	367.61	N.A.	4.70
90-120	452.32	N.A.	5.80
90-130	501.00	N.A.	6.40
90-150	537.40	N.A.	6.80
90-180	543.39	N.A.	6.90
110-180	175.78	N.A.	2.20
0-180	7851.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	239.68
10-20	684.18
20-30	1026.45
30-40	1215.58
40-50	1231.89
50-60	1092.85
60-70	852.47
70-80	592.77
80-90	371.86
90-100	227.57
100-110	140.04
110-120	84.71
120-130	48.68
130-140	25.74
140-150	10.65
150-160	4.97
160-170	1.03
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

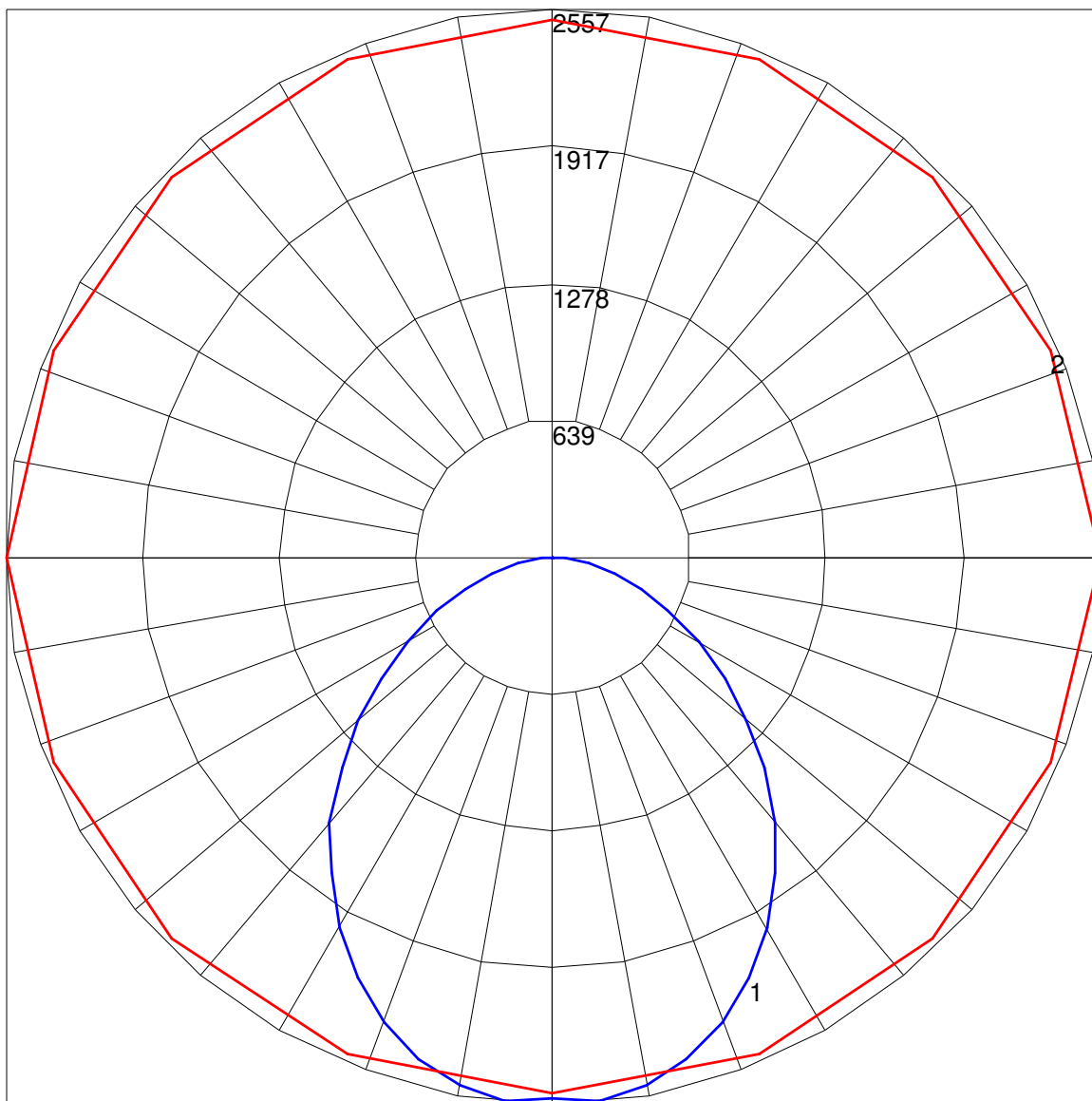
Reflectances

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	18.1	19.6	18.5	20.0	20.5	21.1	22.6	21.6	23.0	23.5
	3H	19.3	20.6	19.8	21.1	21.6	23.3	24.7	23.8	25.2	25.7
	4H	19.7	21.0	20.2	21.4	22.0	24.4	25.7	24.9	26.2	26.7
	6H	19.9	21.1	20.4	21.6	22.1	25.5	26.7	26.0	27.2	27.7
	8H	19.9	21.1	20.5	21.6	22.2	26.1	27.2	26.6	27.7	28.3
	12H	19.9	21.0	20.5	21.6	22.2	26.7	27.8	27.2	28.3	28.9
4H	2H	19.0	20.3	19.5	20.8	21.3	21.4	22.7	21.9	23.2	23.7
	3H	20.5	21.6	21.0	22.1	22.7	23.9	25.0	24.4	25.5	26.1
	4H	21.0	22.0	21.5	22.5	23.1	25.1	26.1	25.6	26.7	27.3
	6H	21.3	22.2	21.8	22.7	23.4	26.4	27.3	27.0	27.9	28.5
	8H	21.4	22.2	21.9	22.8	23.4	27.1	27.9	27.6	28.5	29.1
	12H	21.4	22.2	22.0	22.8	23.4	27.8	28.6	28.4	29.2	29.8
8H	4H	21.7	22.5	22.3	23.1	23.7	25.3	26.1	25.8	26.7	27.3
	6H	22.2	22.9	22.8	23.5	24.2	26.7	27.4	27.3	28.0	28.7
	8H	22.4	23.0	23.0	23.6	24.3	27.5	28.2	28.1	28.8	29.4
	12H	22.5	23.1	23.1	23.7	24.4	28.5	29.0	29.1	29.6	30.3
12H	4H	21.9	22.7	22.5	23.3	23.9	25.3	26.0	25.9	26.6	27.3
	6H	22.5	23.2	23.2	23.8	24.4	26.8	27.4	27.4	28.0	28.7
	8H	22.8	23.4	23.4	24.0	24.7	27.6	28.2	28.2	28.8	29.5

Maximum UGR = 30.3

POLAR GRAPH



Maximum Candela = 2556.637 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.)