



IES INDOOR REPORT

PHOTOMETRIC FILENAME : NW-4-L74-935-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-L74-935-RA-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6148
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
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	10757	9858	10116
55	9172	8543	8995
65	7378	7077	7788
75	5723	6000	6730
85	2685	5409	6265

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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	1985.250	1985.250	1985.250	1985.250	1985.250
5	2001.895	1975.647	1970.526	1970.526	1964.764
10	1965.404	1942.997	1944.278	1949.399	1942.997
15	1899.464	1882.179	1896.263	1911.628	1909.707
20	1814.318	1807.276	1830.323	1858.491	1859.772
25	1696.522	1704.204	1745.817	1782.948	1792.551
30	1572.323	1585.767	1645.306	1693.321	1711.886
35	1417.396	1448.765	1527.510	1590.249	1612.016
40	1269.510	1303.441	1398.190	1485.897	1506.383
45	1094.096	1143.391	1258.627	1353.376	1378.984
50	930.206	991.025	1117.143	1221.495	1249.664
55	768.236	827.774	972.459	1080.652	1113.942
60	614.589	681.810	830.335	930.206	967.978
65	466.703	537.765	683.090	810.489	838.018
70	344.426	407.165	559.532	683.090	715.740
75	233.672	303.453	457.741	568.495	592.822
80	129.960	215.106	366.193	466.703	501.274
85	46.094	145.325	290.649	384.118	412.927
90	0.000	96.030	226.630	318.178	336.744
95	0.000	61.459	178.615	260.560	288.729
100	0.000	40.973	137.002	215.746	238.153
105	0.000	27.528	108.193	174.134	199.101
110	0.000	12.804	85.786	142.764	166.451
115	0.000	8.323	68.501	120.357	137.002
120	0.000	0.000	54.417	98.590	115.876
125	0.000	0.000	42.253	78.744	92.188
130	0.000	0.000	33.290	62.099	73.623
135	0.000	0.000	26.888	48.015	58.898
140	0.000	0.000	14.084	36.491	44.814
145	0.000	0.000	5.122	28.169	32.650
150	0.000	0.000	0.000	24.327	27.528
155	0.000	0.000	0.000	23.047	24.327
160	0.000	0.000	0.000	13.444	22.407
165	0.000	0.000	0.000	4.481	7.682
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	723.40	N.A.	11.80
0-30	1527.13	N.A.	24.80
0-40	2478.96	N.A.	40.30
0-60	4299.27	N.A.	69.90
0-80	5430.92	N.A.	88.30
0-90	5722.09	N.A.	93.10
10-90	5534.42	N.A.	90.00
20-40	1755.56	N.A.	28.60
20-50	2720.15	N.A.	44.20
40-70	2487.82	N.A.	40.50
60-80	1131.65	N.A.	18.40
70-80	464.15	N.A.	7.60
80-90	291.17	N.A.	4.70
90-110	287.85	N.A.	4.70
90-120	354.18	N.A.	5.80
90-130	392.29	N.A.	6.40
90-150	420.79	N.A.	6.80
90-180	425.48	N.A.	6.90
110-180	137.64	N.A.	2.20
0-180	6147.58	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	187.67
10-20	535.73
20-30	803.73
30-40	951.82
40-50	964.59
50-60	855.72
60-70	667.50
70-80	464.15
80-90	291.17
90-100	178.19
100-110	109.65
110-120	66.33
120-130	38.11
130-140	20.16
140-150	8.34
150-160	3.89
160-170	0.80
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	87	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

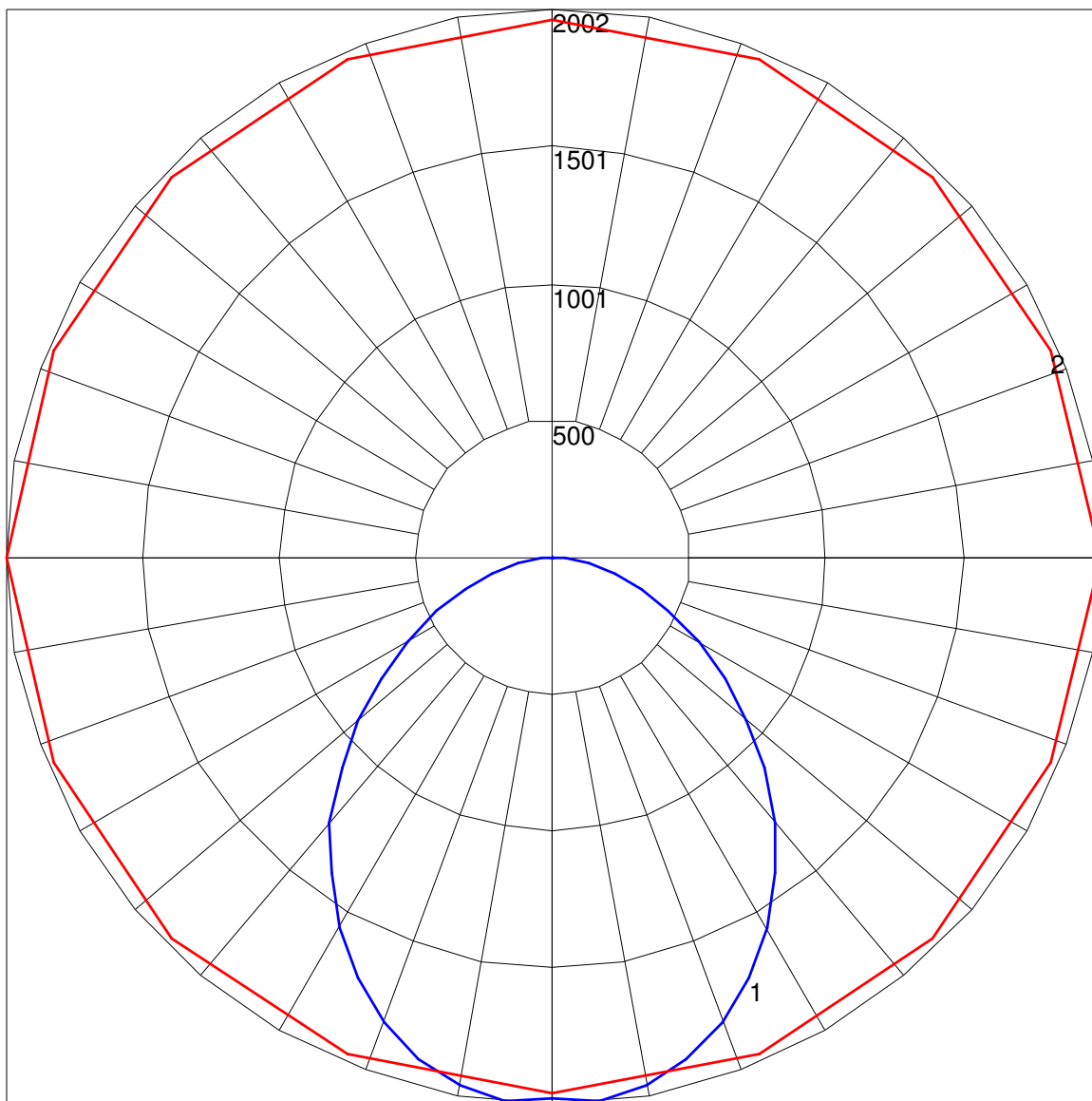
Reflectances

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	17.2	18.7	17.6	19.1	19.6	20.2	21.7	20.7	22.1	22.6
	3H	18.4	19.7	18.9	20.2	20.7	22.4	23.8	22.9	24.3	24.8
	4H	18.8	20.1	19.3	20.5	21.1	23.5	24.8	24.0	25.3	25.8
	6H	19.0	20.2	19.5	20.7	21.2	24.6	25.8	25.1	26.3	26.8
	8H	19.0	20.2	19.6	20.7	21.3	25.2	26.3	25.7	26.8	27.4
	12H	19.0	20.1	19.6	20.7	21.3	25.8	26.9	26.3	27.4	28.0
4H	2H	18.1	19.4	18.6	19.9	20.4	20.5	21.8	21.0	22.3	22.8
	3H	19.6	20.7	20.1	21.2	21.8	23.0	24.1	23.5	24.6	25.2
	4H	20.1	21.1	20.6	21.6	22.2	24.2	25.2	24.7	25.8	26.4
	6H	20.4	21.3	20.9	21.8	22.5	25.5	26.4	26.1	27.0	27.6
	8H	20.5	21.3	21.0	21.9	22.5	26.2	27.0	26.7	27.6	28.2
	12H	20.5	21.3	21.1	21.9	22.5	26.9	27.7	27.5	28.3	28.9
8H	4H	20.8	21.6	21.4	22.2	22.8	24.4	25.2	24.9	25.8	26.4
	6H	21.3	22.0	21.9	22.6	23.3	25.8	26.5	26.4	27.1	27.8
	8H	21.5	22.1	22.1	22.7	23.4	26.6	27.3	27.2	27.9	28.5
	12H	21.6	22.2	22.2	22.8	23.5	27.6	28.1	28.2	28.7	29.4
12H	4H	21.0	21.8	21.6	22.4	23.0	24.4	25.1	25.0	25.7	26.4
	6H	21.6	22.3	22.3	22.9	23.5	25.9	26.5	26.5	27.1	27.8
	8H	21.9	22.5	22.5	23.1	23.8	26.7	27.3	27.3	27.9	28.6

Maximum UGR = 29.4

POLAR GRAPH



Maximum Candela = 2001.895 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.)