



IES INDOOR REPORT
PHOTOMETRIC FILENAME : NW-4-L34-850-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-L34-850-RA-DIM-UNV
 [LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3630
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	154
Total Luminaire Watts	23.5
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	6352	5822	5974
55	5417	5045	5312
65	4357	4179	4599
75	3380	3543	3974
85	1586	3194	3700

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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	1172.361	1172.361	1172.361	1172.361	1172.361
5	1182.190	1166.690	1163.665	1163.665	1160.263
10	1160.641	1147.409	1148.165	1151.189	1147.409
15	1121.701	1111.493	1119.810	1128.884	1127.750
20	1071.419	1067.260	1080.870	1097.505	1098.261
25	1001.856	1006.393	1030.967	1052.894	1058.565
30	928.513	936.452	971.611	999.966	1010.930
35	837.022	855.547	902.049	939.098	951.952
40	749.691	769.728	825.681	877.475	889.573
45	646.103	675.213	743.264	799.217	814.339
50	549.320	585.235	659.713	721.336	737.971
55	453.671	488.830	574.271	638.163	657.823
60	362.937	402.633	490.342	549.320	571.625
65	275.605	317.569	403.389	478.623	494.879
70	203.396	240.445	330.423	403.389	422.670
75	137.992	179.200	270.312	335.716	350.083
80	76.746	127.028	216.250	275.605	296.020
85	27.220	85.819	171.639	226.835	243.848
90	0.000	56.709	133.833	187.895	198.859
95	0.000	36.294	105.478	153.870	170.505
100	0.000	24.196	80.905	127.406	140.638
105	0.000	16.257	63.892	102.832	117.576
110	0.000	7.561	50.660	84.307	98.295
115	0.000	4.915	40.452	71.075	80.905
120	0.000	0.000	32.135	58.221	68.429
125	0.000	0.000	24.952	46.501	54.440
130	0.000	0.000	19.659	36.672	43.477
135	0.000	0.000	15.878	28.354	34.781
140	0.000	0.000	8.317	21.549	26.464
145	0.000	0.000	3.024	16.635	19.281
150	0.000	0.000	0.000	14.366	16.257
155	0.000	0.000	0.000	13.610	14.366
160	0.000	0.000	0.000	7.939	13.232
165	0.000	0.000	0.000	2.646	4.537
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	427.19	N.A.	11.80
0-30	901.83	N.A.	24.80
0-40	1463.91	N.A.	40.30
0-60	2538.87	N.A.	69.90
0-80	3207.15	N.A.	88.30
0-90	3379.1	N.A.	93.10
10-90	3268.27	N.A.	90.00
20-40	1036.72	N.A.	28.60
20-50	1606.35	N.A.	44.20
40-70	1469.14	N.A.	40.50
60-80	668.28	N.A.	18.40
70-80	274.10	N.A.	7.60
80-90	171.95	N.A.	4.70
90-110	169.98	N.A.	4.70
90-120	209.15	N.A.	5.80
90-130	231.66	N.A.	6.40
90-150	248.49	N.A.	6.80
90-180	251.26	N.A.	6.90
110-180	81.28	N.A.	2.20
0-180	3630.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	110.83
10-20	316.37
20-30	474.63
30-40	562.09
40-50	569.63
50-60	505.33
60-70	394.18
70-80	274.10
80-90	171.95
90-100	105.23
100-110	64.75
110-120	39.17
120-130	22.51
130-140	11.90
140-150	4.93
150-160	2.30
160-170	0.47
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

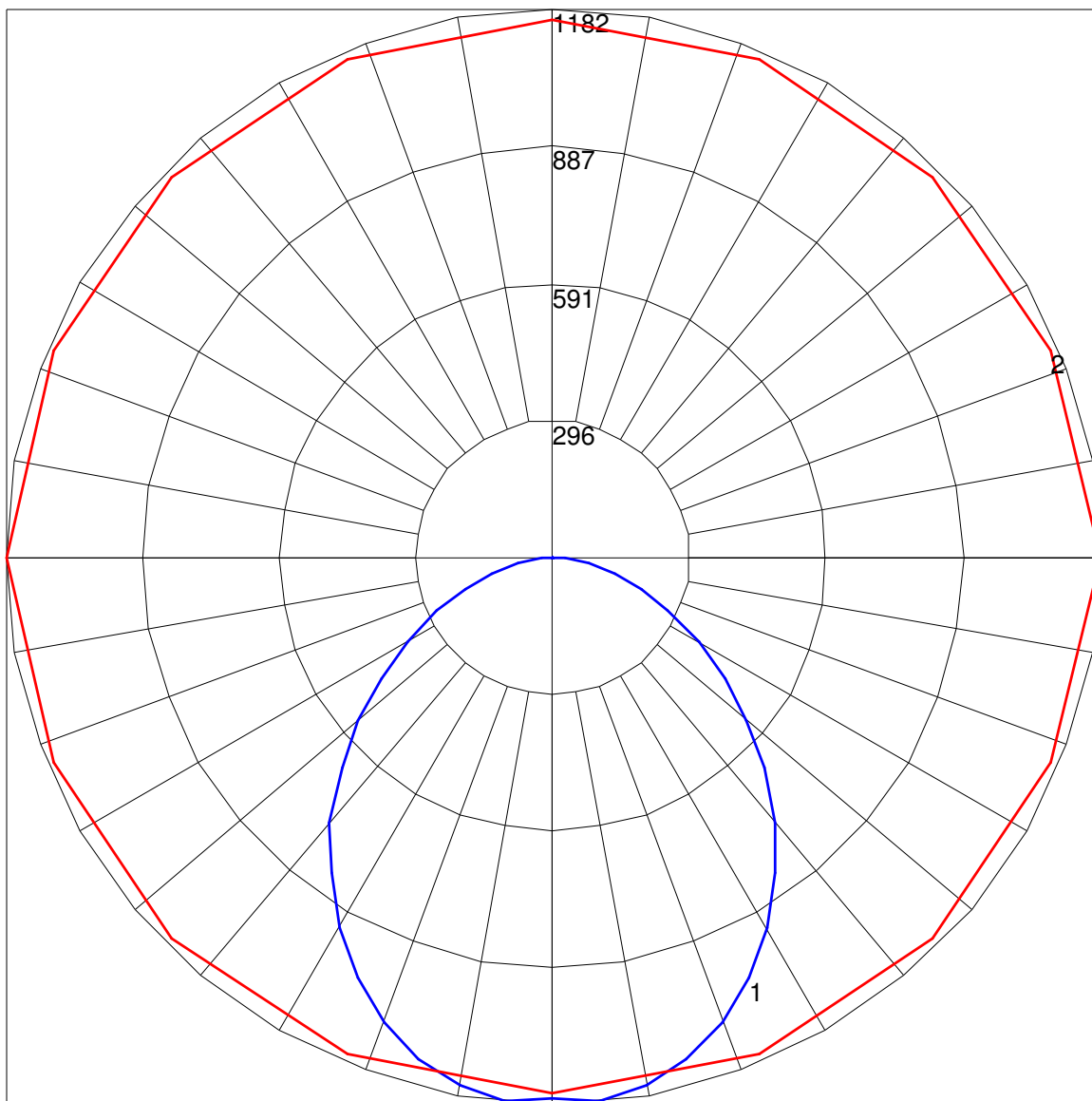
Reflectances

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	15.4	16.9	15.8	17.3	17.8	18.4	19.9	18.9	20.3	20.8
	3H	16.6	17.9	17.1	18.4	18.9	20.6	22.0	21.1	22.5	23.0
	4H	17.0	18.3	17.5	18.7	19.3	21.7	23.0	22.2	23.5	24.0
	6H	17.2	18.4	17.7	18.9	19.4	22.8	24.0	23.3	24.5	25.0
	8H	17.2	18.4	17.8	18.9	19.5	23.3	24.5	23.9	25.0	25.6
	12H	17.2	18.3	17.8	18.9	19.5	24.0	25.1	24.5	25.6	26.2
4H	2H	16.3	17.6	16.8	18.1	18.6	18.7	20.0	19.2	20.5	21.0
	3H	17.8	18.9	18.3	19.4	20.0	21.2	22.3	21.7	22.8	23.4
	4H	18.3	19.3	18.8	19.8	20.4	22.4	23.4	22.9	24.0	24.6
	6H	18.6	19.5	19.1	20.0	20.7	23.7	24.6	24.3	25.2	25.8
	8H	18.7	19.5	19.2	20.1	20.7	24.4	25.2	24.9	25.8	26.4
	12H	18.7	19.5	19.3	20.1	20.7	25.1	25.9	25.7	26.5	27.1
8H	4H	19.0	19.8	19.6	20.4	21.0	22.6	23.4	23.1	24.0	24.6
	6H	19.5	20.2	20.1	20.8	21.5	24.0	24.7	24.6	25.3	26.0
	8H	19.7	20.3	20.3	20.9	21.6	24.8	25.5	25.4	26.1	26.7
	12H	19.8	20.3	20.4	21.0	21.7	25.8	26.3	26.4	26.9	27.6
12H	4H	19.2	20.0	19.8	20.6	21.2	22.6	23.3	23.2	23.9	24.6
	6H	19.8	20.5	20.5	21.1	21.7	24.1	24.7	24.7	25.3	26.0
	8H	20.1	20.7	20.7	21.3	22.0	24.9	25.5	25.5	26.1	26.8

Maximum UGR = 27.6

POLAR GRAPH



Maximum Candela = 1182.19 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.)