

IES INDOOR REPORT

PHOTOMETRIC FILENAME : NW-4-L34-835-RA-(L30)-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

[ISSUE DATE] 09-07-2023

[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-L34-835-RA-(L30)-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3032
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	151
Total Luminaire Watts	20.13
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	5305	4862	4989
55	4524	4213	4436
65	3639	3490	3841
75	2823	2959	3319
85	1324	2668	3090

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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	979.093	979.093	979.093	979.093	979.093
5	987.302	974.357	971.831	971.831	968.990
10	969.306	958.255	958.886	961.412	958.255
15	936.785	928.260	935.206	942.784	941.837
20	894.792	891.319	902.686	916.578	917.209
25	836.697	840.486	861.009	879.321	884.057
30	775.444	782.075	811.438	835.118	844.275
35	699.037	714.508	753.343	784.285	795.020
40	626.102	642.836	689.565	732.820	742.924
45	539.591	563.902	620.734	667.463	680.093
50	458.763	488.757	550.957	602.422	616.314
55	378.882	408.245	479.601	532.960	549.378
60	303.105	336.257	409.508	458.763	477.391
65	230.171	265.217	336.889	399.720	413.297
70	169.865	200.807	275.952	336.889	352.991
75	115.243	149.658	225.750	280.372	292.370
80	64.094	106.087	180.600	230.171	247.220
85	22.733	71.672	143.344	189.441	203.649
90	0.000	47.360	111.770	156.920	166.076
95	0.000	30.311	88.090	128.504	142.396
100	0.000	20.207	67.567	106.403	117.453
105	0.000	13.577	53.359	85.880	98.193
110	0.000	6.315	42.308	70.409	82.091
115	0.000	4.105	33.784	59.358	67.567
120	0.000	0.000	26.837	48.623	57.148
125	0.000	0.000	20.838	38.835	45.466
130	0.000	0.000	16.418	30.626	36.309
135	0.000	0.000	13.261	23.680	29.048
140	0.000	0.000	6.946	17.997	22.101
145	0.000	0.000	2.526	13.892	16.102
150	0.000	0.000	0.000	11.998	13.577
155	0.000	0.000	0.000	11.366	11.998
160	0.000	0.000	0.000	6.630	11.051
165	0.000	0.000	0.000	2.210	3.789
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	356.77	N.A.	11.80
0-30	753.16	N.A.	24.80
0-40	1222.58	N.A.	40.30
0-60	2120.33	N.A.	69.90
0-80	2678.44	N.A.	88.30
0-90	2822.04	N.A.	93.10
10-90	2729.49	N.A.	90.00
20-40	865.81	N.A.	28.60
20-50	1341.53	N.A.	44.20
40-70	1226.95	N.A.	40.50
60-80	558.11	N.A.	18.40
70-80	228.91	N.A.	7.60
80-90	143.60	N.A.	4.70
90-110	141.96	N.A.	4.70
90-120	174.67	N.A.	5.80
90-130	193.47	N.A.	6.40
90-150	207.53	N.A.	6.80
90-180	209.84	N.A.	6.90
110-180	67.88	N.A.	2.20
0-180	3031.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	92.56
10-20	264.21
20-30	396.39
30-40	469.42
40-50	475.72
50-60	422.03
60-70	329.20
70-80	228.91
80-90	143.60
90-100	87.88
100-110	54.08
110-120	32.71
120-130	18.80
130-140	9.94
140-150	4.11
150-160	1.92
160-170	0.40
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

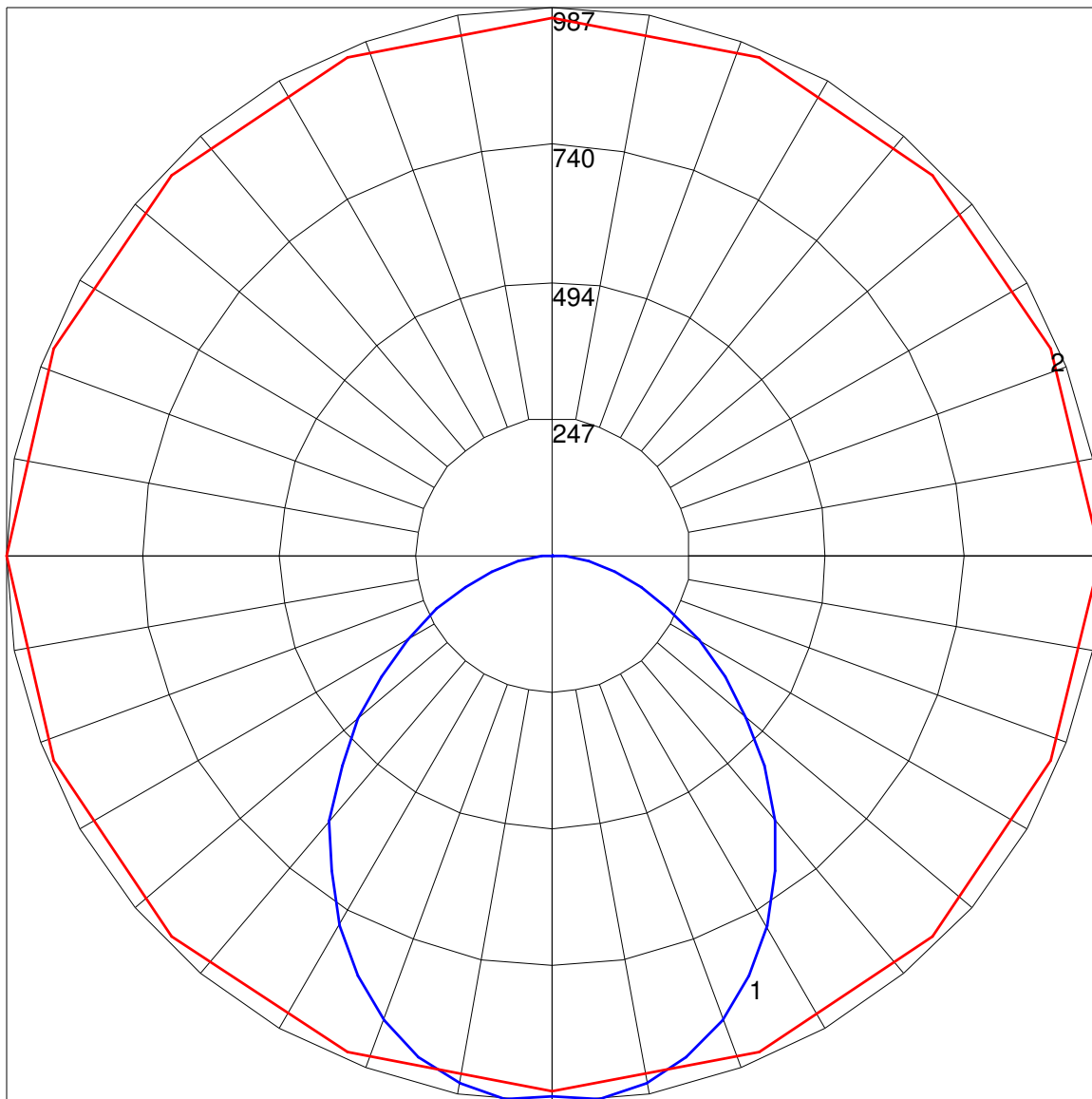
Reflectances

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	14.8	16.3	15.2	16.7	17.2	17.8	19.3	18.3	19.7	20.2
	3H	16.0	17.3	16.5	17.8	18.3	20.0	21.4	20.5	21.9	22.4
	4H	16.4	17.7	16.9	18.1	18.7	21.1	22.4	21.6	22.9	23.4
	6H	16.6	17.8	17.1	18.3	18.8	22.2	23.4	22.7	23.9	24.4
	8H	16.6	17.8	17.2	18.3	18.9	22.8	23.9	23.3	24.4	25.0
	12H	16.6	17.7	17.2	18.3	18.9	23.4	24.5	23.9	25.0	25.6
4H	2H	15.7	17.0	16.2	17.5	18.0	18.1	19.4	18.6	19.9	20.4
	3H	17.2	18.3	17.7	18.8	19.4	20.6	21.7	21.1	22.2	22.8
	4H	17.7	18.7	18.2	19.2	19.8	21.8	22.8	22.3	23.4	24.0
	6H	18.0	18.9	18.5	19.4	20.1	23.1	24.0	23.7	24.6	25.2
	8H	18.1	18.9	18.6	19.5	20.1	23.8	24.6	24.3	25.2	25.8
	12H	18.1	18.9	18.7	19.5	20.1	24.5	25.3	25.1	25.9	26.5
8H	4H	18.4	19.2	19.0	19.8	20.4	22.0	22.8	22.5	23.4	24.0
	6H	18.9	19.6	19.5	20.2	20.9	23.4	24.1	24.0	24.7	25.4
	8H	19.1	19.7	19.7	20.3	21.0	24.2	24.9	24.8	25.5	26.1
	12H	19.2	19.8	19.8	20.4	21.1	25.2	25.7	25.8	26.3	27.0
12H	4H	18.6	19.4	19.2	20.0	20.6	22.0	22.7	22.6	23.3	24.0
	6H	19.2	19.9	19.9	20.5	21.1	23.5	24.1	24.1	24.7	25.4
	8H	19.5	20.1	20.1	20.7	21.4	24.3	24.9	24.9	25.5	26.2

Maximum UGR = 27.0

POLAR GRAPH



Maximum Candela = 987.302 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.)