IES INDOOR REPORT
PHOTOMETRIC FILENAME : SL-4-L10-840-RD-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] BALLABS TEST NO. 21002.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-04-25
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] SL LED SLIMLINE ARCHITECTURAL LUMINAIRE
[MORE] 1.375 WIDE ALUM CHANNEL w/1"WIDE WHITE RADIAL ACRYLIC LENS
[LUMCAT] SL-4-L10-840-RD-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR, COVE, CLASSROOM
[_SEARCH_MOUNTING] SURFACE, WALL

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3997
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	36
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.13 ft
Luminous Height	0.05 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24710	19916	18943
55	23323	17818	17088
65	20759	15316	15206
75	17383	12607	13534
85	9411	10453	12187

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1258.66	1258.66	1258.66	1258.66	1258.66
5	1262.78	1256.60	1248.36	1246.30	1248.36
10	1244.24	1238.06	1229.82	1229.82	1233.94
15	1217.46	1211.28	1203.04	1205.10	1205.10
20	1176.26	1170.08	1159.78	1168.02	1170.08
25	1124.76	1118.58	1116.52	1122.70	1126.82
30	1060.90	1060.90	1060.90	1069.14	1067.08
35	992.92	992.92	992.92	1001.16	1007.34
40	910.52	912.58	914.64	929.06	937.30
45	821.94	828.12	834.30	850.78	856.96
50	725.12	731.30	745.72	770.44	782.80
55	632.42	634.48	661.26	681.86	700.40
60	525.30	535.60	572.68	611.82	624.18
65	418.18	434.66	477.92	521.18	539.72
70	319.30	335.78	389.34	442.90	459.38
75	218.36	247.20	306.94	366.68	391.40
80	127.72	158.62	238.96	298.70	325.48
85	43.26	100.94	175.10	234.84	261.62
90	0.00	55.62	129.78	183.34	203.94
95	0.00	28.84	88.58	142.14	160.68
100	0.00	14.42	61.80	105.06	123.60
105	0.00	8.24	43.26	76.22	92.70
110	0.00	6.18	28.84	55.62	65.92
115	0.00	4.12	18.54	39.14	49.44
120	0.00	0.00	10.30	24.72	30.90
125	0.00	0.00	8.24	16.48	20.60
130	0.00	0.00	0.00	10.30	12.36
135	0.00	0.00	0.00	0.00	8.24
140	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	459.56	N.A.	11.50
0-30	976.06	N.A.	24.40
0-40	1599.3	N.A.	40.00
0-60	2838.1	N.A.	71.00
0-80	3639.07	N.A.	91.00
0-90	3824.45	N.A.	95.70
10-90	3705.51	N.A.	92.70
20-40	1139.74	N.A.	28.50
20-50	1786.27	N.A.	44.70
40-70	1714.18	N.A.	42.90
60-80	800.96	N.A.	20.00
70-80	325.59	N.A.	8.10
80-90	185.38	N.A.	4.60
90-110	142.45	N.A.	3.60
90-120	164.07	N.A.	4.10
90-130	171.81	N.A.	4.30
90-150	173.04	N.A.	4.30
90-180	173.04	N.A.	4.30
110-180	30.60	N.A.	0.80
0-180	3997.49	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	118.94
10-20	340.62
20-30	516.51
30-40	623.23
40-50	646.53
50-60	592.28
60-70	475.38
70-80	325.59
80-90	185.38
90-100	95.09
100-110	47.36
110-120	21.63
120-130	7.74
130-140	1.23
140-150	0.00
150-160	0.00
160-170	0.00
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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	106	101	96	92	103	98	94	90	93	90	86	89	86	83	84	82	80	77
2	96	87	80	74	93	85	78	73	81	75	70	77	72	68	73	69	66	63
3	88	76	68	61	85	75	67	60	71	64	59	68	62	57	64	60	55	53
4	80	68	58	51	77	66	57	51	63	55	50	60	54	49	57	52	47	45
5	74	60	51	44	71	59	50	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	38	66	53	44	38	51	43	37	49	42	37	47	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	32	43	37	32	30
8	59	45	36	30	57	44	36	30	42	35	29	41	34	29	39	33	29	27
9	55	41	33	27	53	40	32	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	24	36	29	24	35	28	24	33	28	23	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	20.9	22.5	21.3	22.9	23.3	22.6	24.2	23.0	24.6	25.0
	3H	22.4	23.8	22.8	24.2	24.7	24.9	26.3	25.3	26.8	27.2
	4H	22.8	24.2	23.3	24.6	25.1	26.0	27.4	26.5	27.8	28.3
	6H	23.1	24.4	23.6	24.9	25.3	27.2	28.4	27.6	28.9	29.4
	8H	23.2	24.4	23.7	24.9	25.4	27.8	29.0	28.3	29.5	29.9
	12H	23.2	24.4	23.7	24.8	25.4	28.4	29.6	28.9	30.0	30.6
4H	2H	21.7	23.1	22.1	23.5	23.9	23.0	24.4	23.5	24.8	25.3
	3H	23.4	24.5	23.8	25.0	25.5	25.5	26.7	26.0	27.2	27.7
	4H	23.9	25.0	24.4	25.5	26.0	26.8	27.9	27.3	28.3	28.9
	6H	24.3	25.3	24.9	25.8	26.3	28.1	29.1	28.7	29.6	30.1
	8H	24.4	25.3	25.0	25.8	26.4	28.8	29.7	29.3	30.2	30.8
	12H	24.5	25.3	25.0	25.8	26.4	29.6	30.4	30.1	30.9	31.5
8H	4H	24.5	25.4	25.0	25.9	26.4	27.0	27.9	27.5	28.4	28.9
	6H	25.0	25.8	25.6	26.3	26.9	28.5	29.2	29.0	29.8	30.3
	8H	25.2	25.9	25.7	26.4	27.0	29.3	30.0	29.8	30.5	31.1
	12H	25.3	25.9	25.9	26.4	27.1	30.2	30.8	30.8	31.4	32.0
12H	4H	24.6	25.4	25.2	26.0	26.5	27.0	27.8	27.5	28.3	28.9
	6H	25.2	25.9	25.8	26.5	27.1	28.5	29.2	29.1	29.7	30.3
	8H	25.5	26.1	26.1	26.6	27.3	29.4	30.0	29.9	30.5	31.2

Maximum UGR = 32.0

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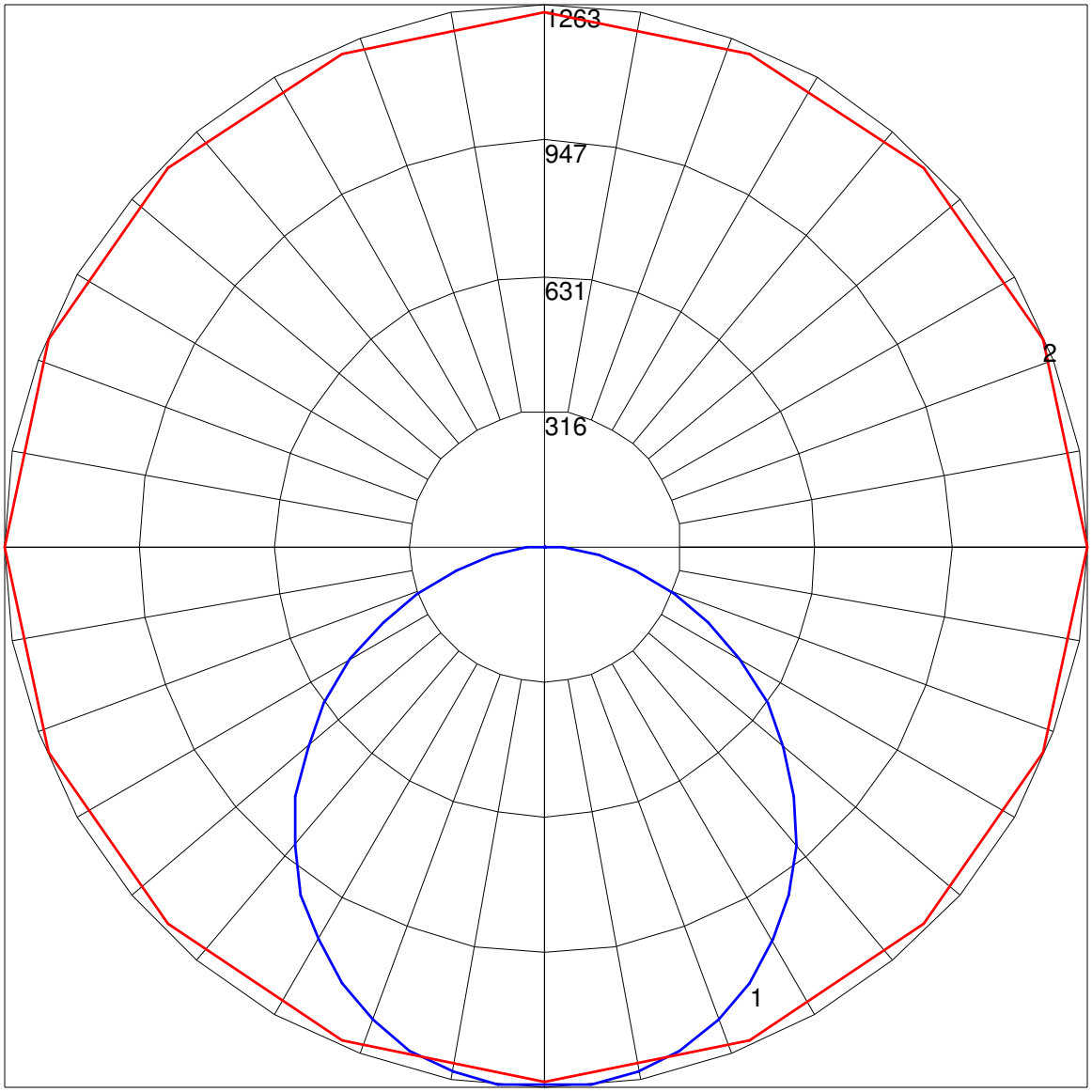
POLAR GRAPH



Maximum Candela = 1262.78 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.)

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