



**IES INDOOR REPORT
PHOTOMETRIC FILENAME : PL4SA454UNIV.IES**

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]BALLABS TEST NO. 14139.0
 [ISSUE DATE] 10/4/2008
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [MANUFAC] TECHNICAL CONSUMER PRODUCTS
 [LUMCAT] PL4SA454UNIV
 [LUMINAIRE] POLAR BAY ENCLOSED & GASKETTED MIRO4 4' 54W T5HO 4-LAMP
 [LAMP] (4) 54-WATT T5HO LINEAR FLUORESCENTS
 [BALLAST] (1) UNIVERSAL BALLAST #B454IUNV-E WATTS=241 REFL=86%
 [_ MOUNTING] SUSPENDED
 [OTHER] THE 0 PLANE IS PARALLEL WITH THE LAMPS
 [OTHER] TOTAL INPUT WATTS = 241 AT 120.0 VOLTS

CHARACTERISTICS

Total Rated Lamp Lumens	17800 (4 lamps)
Total Luminaire Efficiency	93.1 %
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	241
Ballast Factor	1.00
CIE Type	Direct
Spacing Criteria (0-180)	1.26
Spacing Criteria (90-270)	1.20
Spacing Criteria (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.23 ft
Luminous Width (90-270)	1.13 ft
Luminous Height	0.25 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10827	8596	8216
55	9435	7244	7949
65	7259	6537	7671
75	4288	5954	7535
85	1602	6057	8663

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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	5676.00	5676.00	5676.00	5676.00	5676.00
5	5740.48	5791.34	5824.94	5868.53	5879.43
10	5814.04	5863.99	5974.78	6006.57	6006.57
15	5770.45	5896.68	5973.88	5957.53	5923.93
20	5446.24	5626.96	5594.27	5534.33	5511.62
25	5319.09	5506.17	5390.84	5313.64	5259.15
30	4774.2	4934.03	4801.44	4570.77	4494.48
35	4488.13	4609.82	4379.15	4103.07	4026.78
40	4009.53	4103.07	3708.02	3487.33	3476.44
45	3587.23	3668.97	3223.97	3190.37	3141.33
50	3102.27	3091.38	2706.32	2810.76	2892.49
55	2596.43	2425.7	2360.31	2585.53	2657.28
60	2078.78	1848.11	2056.98	2332.15	2409.35
65	1529.34	1402.2	1743.67	2062.43	2117.83
70	1044.38	1049.83	1522.98	1770.91	1842.66
75	599.39	752.86	1187.87	1490.29	1578.38
80	263.37	543.99	895.45	1265.07	1396.75
85	103.53	329.66	764.67	1110.68	1182.42
90	54.49	269.72	660.23	819.16	851.85
95	27.24	181.63	346.01	439.55	473.15
100	0.00	71.74	148.03	230.67	252.47
105	0.00	59.94	87.18	126.23	142.58
110	0.00	54.49	71.74	93.54	93.54
115	0.00	54.49	71.74	81.73	81.73
120	0.00	59.94	81.73	81.73	87.18
125	0.00	54.49	103.53	98.99	98.99
130	0.00	0.00	93.54	103.53	115.34
135	0.00	0.00	191.62	131.68	142.58
140	0.00	0.00	54.49	81.73	93.54
145	0.00	0.00	49.04	65.39	76.29
150	0.00	0.00	43.59	59.94	59.94
155	0.00	0.00	43.59	59.94	59.94
160	0.00	0.00	31.79	49.04	38.14
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
0-30	4633.72	26	27.9
0-40	7320.76	41.1	44.2
0-60	12147.36	68.2	73.3
0-90	15893.24	89.3	95.9
90-120	521.5	2.9	3.1
90-130	585.14	3.3	3.5
90-150	669.21	3.8	4
90-180	685.84	3.9	4.1
0-180	16579.08	93.1	100

Total Luminaire Efficiency = 93.1%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	558.26
10-20	1649.3
20-30	2426.17
30-40	2687.04
40-50	2584.34
50-60	2242.25
60-70	1754.29
70-80	1212.32
80-90	779.27
90-100	355.96
100-110	101.57
110-120	63.97
120-130	63.65
130-140	59.54
140-150	24.53
150-160	14.57
160-170	2.06
170-180	0

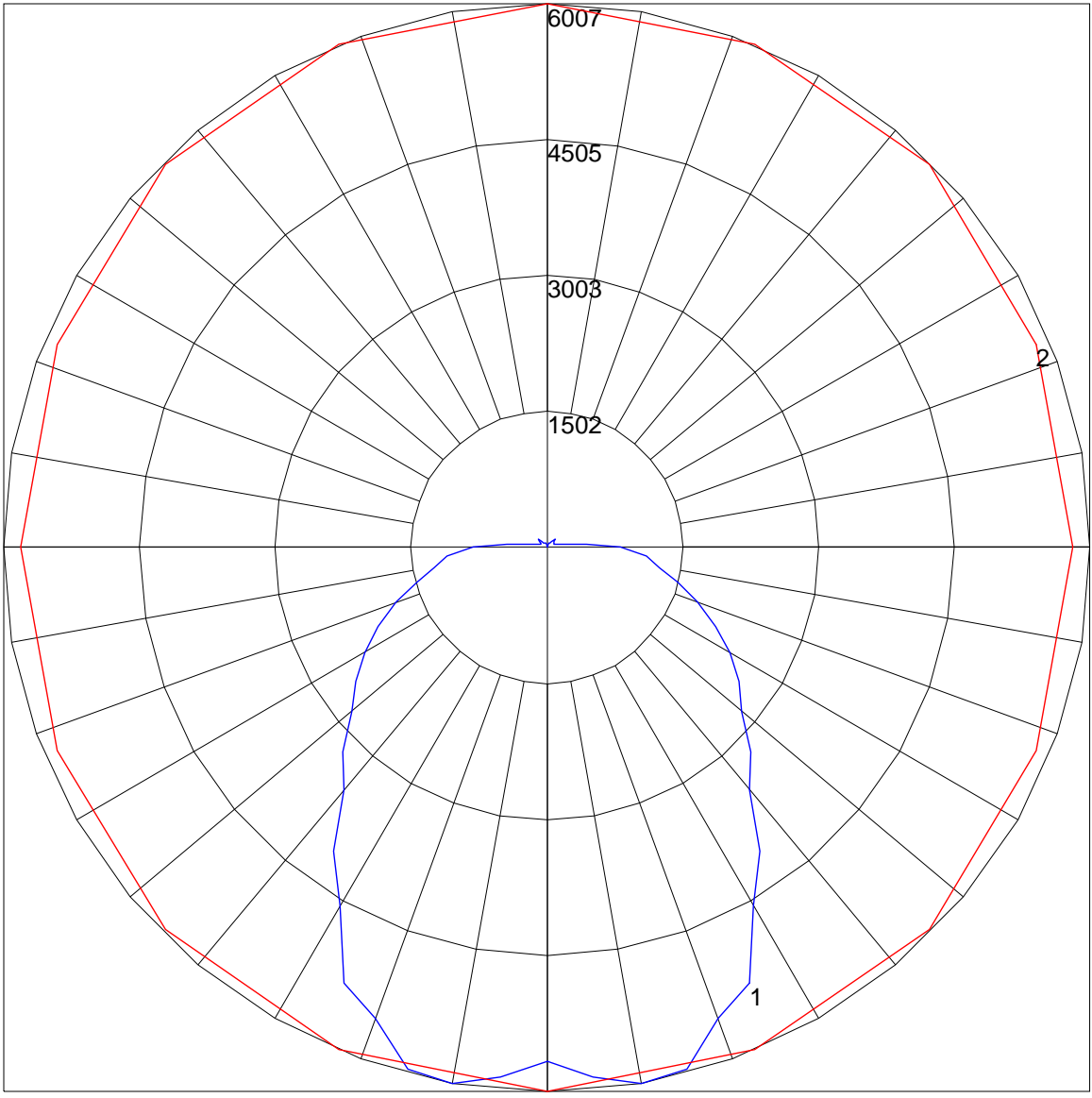
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	110	110	110	107	107	107	107	101	101	101	96	96	96	92	92	92	89
1	99	95	90	86	96	92	88	85	87	84	81	83	80	78	79	77	75	73
2	90	82	76	70	88	80	74	69	76	71	67	73	69	65	69	66	63	61
3	83	73	65	59	80	71	64	58	67	61	56	64	59	55	62	57	54	51
4	76	65	56	50	73	63	55	49	60	54	48	58	52	47	55	50	46	44
5	70	58	49	43	68	57	49	43	54	47	42	52	46	41	50	45	40	38
6	65	52	44	38	63	51	43	38	49	42	37	47	41	36	45	40	36	34
7	60	47	39	34	58	47	39	33	45	38	33	43	37	32	42	36	32	30
8	56	43	36	30	54	43	35	30	41	34	30	40	34	29	38	33	29	27
9	52	40	32	27	51	39	32	27	38	31	27	37	31	26	35	30	26	24
10	49	37	30	25	48	36	29	25	35	29	24	34	28	24	33	28	24	22

POLAR GRAPH



Maximum Candela = 6006.57 Located At Horizontal Angle = 67.5, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)