



**IES INDOOR REPORT  
PHOTOMETRIC FILENAME : EL4SA454UNIV.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [ISSUE DATE]08/17/06  
 [TEST]ITL57740  
 [TEST LAB]INDEPENDENT TESTING LABORATORIES, INC.  
 [MANUFACTURER]TECHNICAL CONSUMER PRODUCTS INC.  
 [LUMINAIRE CATEGORY]EL4SA454UNIV  
 [LUMINAIRE]ELITE MIRO4 4' 54W T5HO 4-LAMP W/NEW REFLECTOR  
 [LAMP]FOUR 54-WATT T-5 SYLVANIA FP54/835/HO LINEAR FLUORESCENTS.  
 [BALLAST]UNIVERSAL B454PUNV-E  
 [MOUNTING]RECESSED  
 [OTHER]THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.  
 [OTHER]TOTAL INPUT WATTS= 230.8 AT 120.0 VOLTS  
 [OTHER]LUMEN TO CANDELA RATIO USED= 9.17

**CHARACTERISTICS**

Total Rated Lamp Lumens	17800 (4 lamps)
Total Luminaire Efficiency	107.2 %
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	231
Ballast Factor	1.00
CIE Type	Direct
Spacing Criteria (0-180)	1.32
Spacing Criteria (90-270)	1.30
Spacing Criteria (Diagonal)	1.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.01 ft
Luminous Width (90-270)	1.33 ft
Luminous Height	0.08 ft



**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	13015	12216	11029
55	12000	10275	8833
65	10592	7964	9207
75	9396	8778	10831
85	6060	6979	6824

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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>
<b>0.0</b>	6634	6634	6634	6634	6634
<b>2.5</b>	6667	6724	6824	6912	6937
<b>5.0</b>	6656	6794	7002	7131	7165
<b>7.5</b>	6689	6885	7115	7074	7029
<b>10.0</b>	6706	6936	7104	6929	6860
<b>12.5</b>	6636	6994	6840	6694	6706
<b>15.0</b>	6557	7008	6580	6390	6511
<b>17.5</b>	6497	6861	6411	6376	6499
<b>20.0</b>	6405	6657	6209	6325	6398
<b>22.5</b>	6331	6442	6142	6252	6240
<b>25.0</b>	6241	6211	6036	6114	6025
<b>27.5</b>	6073	6033	5962	5862	5844
<b>30.0</b>	5905	5812	5795	5647	5703
<b>32.5</b>	5764	5639	5617	5516	5580
<b>35.0</b>	5599	5394	5367	5469	5561
<b>37.5</b>	5391	5175	5160	5218	5155
<b>40.0</b>	5198	4949	4997	5035	4845
<b>42.5</b>	4922	4722	4738	4589	4459
<b>45.0</b>	4671	4466	4548	4194	4120
<b>47.5</b>	4395	4243	4186	3814	3723
<b>50.0</b>	4094	3993	3873	3505	3390
<b>52.5</b>	3825	3735	3513	3190	3091
<b>55.0</b>	3524	3496	3177	2835	2744
<b>57.5</b>	3233	3161	2813	2548	2530
<b>60.0</b>	2916	2898	2472	2240	2251
<b>62.5</b>	2613	2542	2183	2145	2199
<b>65.0</b>	2325	2247	1885	2037	2194
<b>67.5</b>	2051	1885	1742	1928	2065
<b>70.0</b>	1783	1594	1570	1939	2016
<b>72.5</b>	1519	1339	1413	1797	1908
<b>75.0</b>	1303	1076	1378	1638	1719
<b>77.5</b>	1000	915	1249	1385	1446
<b>80.0</b>	743	738	1047	1135	1157
<b>82.5</b>	502	609	829	815	812
<b>85.0</b>	325	422	506	518	507
<b>87.5</b>	192	281	335	292	279
<b>90.0</b>	106	123	108	84	86
<b>92.5</b>	0	0	0	0	0
<b>95.0</b>	0	0	0	0	0
<b>97.5</b>	0	0	0	0	0
<b>100.0</b>	0	0	0	0	0
<b>102.5</b>	0	0	0	0	0
<b>105.0</b>	0	0	0	0	0
<b>107.5</b>	0	0	0	0	0
<b>110.0</b>	0	0	0	0	0
<b>112.5</b>	0	0	0	0	0
<b>115.0</b>	0	0	0	0	0
<b>117.5</b>	0	0	0	0	0
<b>120.0</b>	0	0	0	0	0
<b>122.5</b>	0	0	0	0	0
<b>125.0</b>	0	0	0	0	0
<b>127.5</b>	0	0	0	0	0
<b>130.0</b>	0	0	0	0	0
<b>132.5</b>	0	0	0	0	0

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CANDELA TABULATION - (Cont.)

135.0	0	0	0	0	0
137.5	0	0	0	0	0
140.0	0	0	0	0	0
142.5	0	0	0	0	0
145.0	0	0	0	0	0
147.5	0	0	0	0	0
150.0	0	0	0	0	0
152.5	0	0	0	0	0
155.0	0	0	0	0	0
157.5	0	0	0	0	0
160.0	0	0	0	0	0
162.5	0	0	0	0	0
165.0	0	0	0	0	0
167.5	0	0	0	0	0
170.0	0	0	0	0	0
172.5	0	0	0	0	0
175.0	0	0	0	0	0
177.5	0	0	0	0	0
180.0	0	0	0	0	0

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-30	5360.97	30.1	28.1
0-40	8751.94	49.2	45.9
0-60	14963.43	84.1	78.4
0-90	19067.11	107.1	99.9
90-120	14.08	.1	.1
90-130	14.08	.1	.1
90-150	14.08	.1	.1
90-180	14.08	.1	.1
0-180	19081.19	107.2	100

Total Luminaire Efficiency = 107.2%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	662.03
10-20	1879.63
20-30	2819.31
30-40	3390.97
40-50	3385.11
50-60	2826.38
60-70	2098.93
70-80	1456.55
80-90	548.2
90-100	14.08
100-110	0
110-120	0
120-130	0
130-140	0
140-150	0
150-160	0
160-170	0
170-180	0

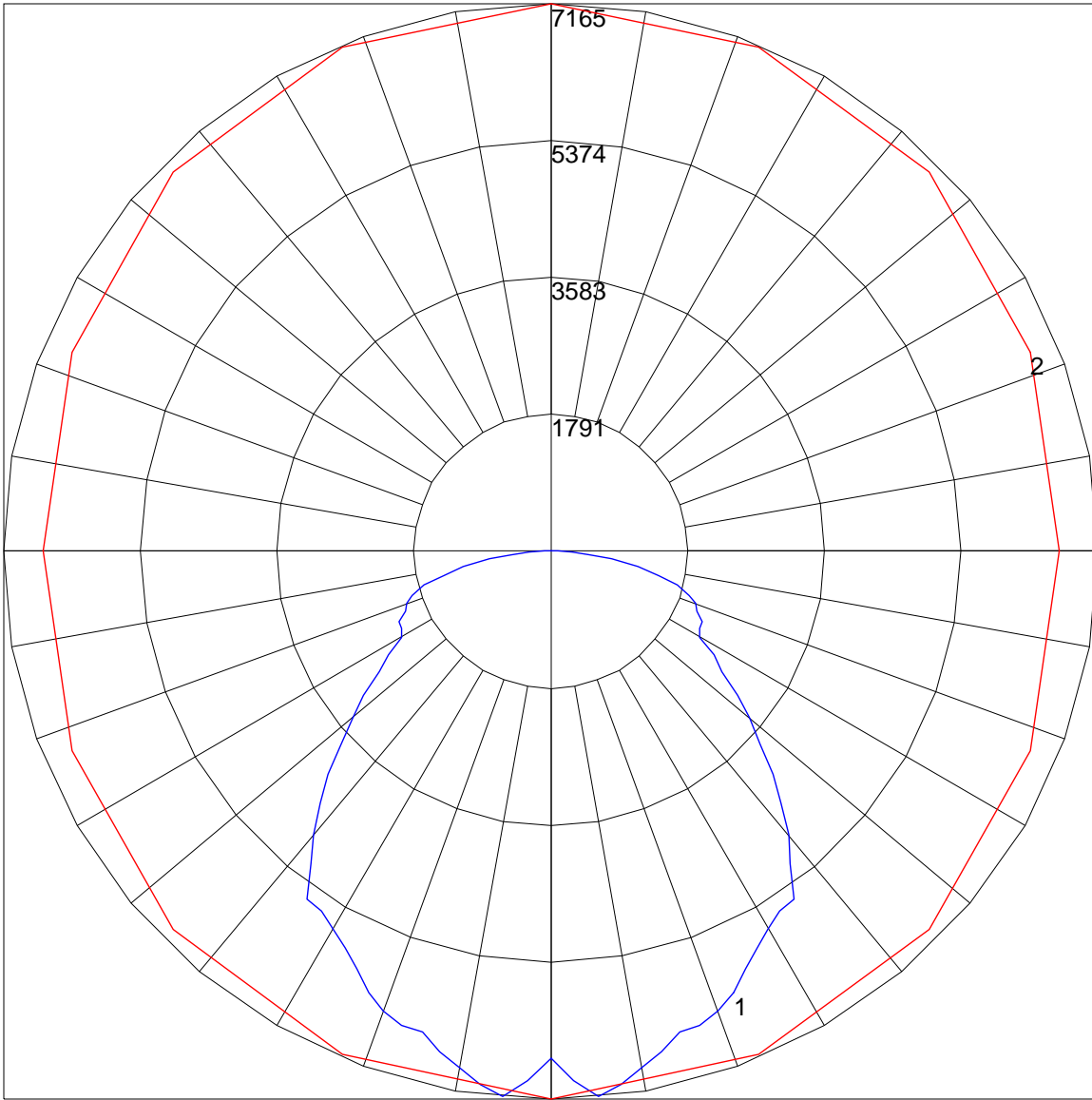
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	128	128	128	128	128	125	125	125	125	119	119	119	114	114	114	109	109	109	107
1	116	111	106	102	102	113	108	104	100	104	100	97	100	97	94	96	93	91	89
2	106	97	89	83	83	103	95	88	82	91	85	80	87	82	78	84	80	76	74
3	96	85	76	69	69	94	83	75	69	80	73	67	77	71	66	74	69	65	63
4	88	75	66	59	59	86	74	65	58	71	64	58	69	62	57	66	61	56	54
5	81	68	58	51	51	79	66	57	50	64	56	50	62	55	49	60	54	49	47
6	75	61	51	44	44	73	60	51	44	58	50	44	56	49	43	54	48	43	41
7	70	55	46	39	39	68	54	46	39	53	45	39	51	44	39	50	43	38	36
8	65	51	41	35	35	63	50	41	35	48	40	35	47	40	35	46	39	34	32
9	61	46	38	32	32	59	46	37	32	45	37	31	43	36	31	42	36	31	29
10	57	43	34	29	29	56	42	34	29	41	34	29	40	33	28	39	33	28	26

POLAR GRAPH



Maximum Candela = 7165 Located At Horizontal Angle = 90, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)