

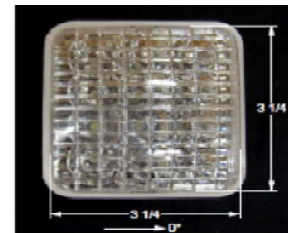
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : ITL81142\_FHEM16.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST]ITL81142  
 [TESTLAB]INDEPENDENT TESTING LABORATORIES, INC.  
 [ISSUE DATE]03/26/14  
 [MANUFAC]Fulham  
 [LUMCAT] FHEM16  
 [LUMINAIRE]ONE 11.625" X 7.25" MOLDED WHITE PLASTIC SINGLE FACE EXIT  
 [MORE]SIGN WITH 2 MOLDED WHITE PLASTIC SWIVEL HEAD ASSEMBLIES, EACH  
 [MORE]HEAD ASSEMBLY CONSISTS OF: ONE CIRCUIT BOARD WITH 12 LEDS,  
 [MORE]MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE  
 [MORE]PER LED, CLEAR RECTANGULAR PRISMATIC PLASTIC LENS. BOTH SWIVEL  
 [MORE]HEAD ASSEMBLIES AND ALL 10 INTERIOR LEDS WERE ILLUMINATED FOR  
 [MORE]THIS TEST. ONLY ONE LIGHT HEAD WAS MEASURED FOR LIGHT OUTPUT.  
 [LAMP]TWELVE WHITE LIGHT EMITTING DIODES (LEDS) EACH WITH CLEAR  
 [MORE]CYLINDRICAL INTEGRAL LENS WITH HEMISPHERICAL END, VERTICAL  
 [MORE]BASE-UP POSITION.  
 [OTHER]TOTAL INPUT WATTS = 1.76 AT 3.6 VOLTS DC  
 [\_ MOUNTING]SURFACE  
 [\_ LEDDRIVER]PACE ELECTRONICS PROPRIETARY  
 [\_ NOTE]DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT CLIENT  
 [MORE]REQUESTED INPUT VOLTAGE (3.6VDC) TO THE DRIVER. DRIVER  
 [MORE]INFORMATION PROVIDED BY CLIENT.  
 [OTHER]TEST PROCEDURE: IESNA LM-79-08  
 [OTHER]TEST DISTANCE = 35.0 FEET  
 [\_ ABSOLUTE LUMENS]41.4

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	41
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	24
Total Luminaire Watts	1.76
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.42
Spacing Criterion (90-270)	0.36
Spacing Criterion (Diagonal)	0.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.27 ft
Luminous Width (90-270)	0.27 ft
Luminous Height	0.05 ft



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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	460	433	848
55	184	170	410
65	127	114	557
75	138	118	241
85	113	89	226

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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>	145.2	145.2	145.2	145.2	145.2
<b>0.5</b>	145.2	145.0	143.8	143.4	143.3
<b>1.0</b>	145.1	144.7	142.8	141.0	139.0
<b>1.5</b>	145.1	144.3	141.4	137.9	136.2
<b>2.0</b>	144.9	143.5	139.1	133.6	131.8
<b>2.5</b>	144.7	142.0	135.8	128.7	126.7
<b>3.0</b>	144.2	140.4	132.0	123.2	121.0
<b>3.5</b>	143.4	138.4	128.4	117.7	115.4
<b>4.0</b>	142.3	136.2	124.0	112.4	110.1
<b>4.5</b>	141.3	133.7	120.1	107.4	105.1
<b>5.0</b>	140.1	131.2	116.0	102.9	100.6
<b>5.5</b>	138.7	128.3	111.8	98.4	96.6
<b>6.0</b>	136.8	125.4	108.1	94.9	93.1
<b>6.5</b>	134.8	122.2	105.0	92.0	90.1
<b>7.0</b>	131.6	118.6	102.2	89.5	87.9
<b>7.5</b>	128.1	114.4	99.3	87.4	86.0
<b>8.0</b>	123.3	109.5	96.2	85.5	83.9
<b>8.5</b>	118.8	105.0	93.2	84.0	82.3
<b>9.0</b>	112.4	98.9	90.1	82.3	80.4
<b>9.5</b>	105.7	92.9	87.1	80.2	78.4
<b>10.0</b>	99.2	87.1	84.0	77.8	75.8
<b>11.0</b>	86.2	75.3	77.1	72.7	70.3
<b>12.0</b>	75.0	65.0	69.7	67.5	64.1
<b>13.0</b>	68.7	58.3	62.3	63.7	58.3
<b>14.0</b>	60.6	52.8	54.7	60.4	51.6
<b>15.0</b>	47.6	43.8	45.9	50.9	44.1
<b>16.0</b>	36.5	33.3	35.1	38.5	37.1
<b>17.0</b>	28.0	25.1	26.3	30.7	34.3
<b>18.0</b>	23.1	19.9	20.8	28.1	34.5
<b>19.0</b>	21.1	17.5	17.4	27.5	35.8
<b>20.0</b>	20.4	16.1	14.8	27.5	37.0
<b>22.5</b>	20.7	14.2	10.5	26.6	34.7
<b>25.0</b>	21.9	13.6	8.6	23.0	30.0
<b>27.5</b>	22.8	13.0	7.9	18.9	31.8
<b>30.0</b>	20.5	12.2	7.7	17.8	29.4
<b>32.5</b>	15.1	10.3	6.4	14.5	21.8
<b>35.0</b>	10.9	6.7	4.2	10.2	15.7
<b>37.5</b>	7.5	5.0	3.5	7.1	12.2
<b>40.0</b>	5.3	3.8	3.4	4.8	8.7
<b>42.5</b>	3.5	3.1	3.0	3.6	5.8
<b>45.0</b>	2.6	2.5	2.6	2.9	4.8
<b>47.5</b>	1.9	2.0	2.1	2.5	4.5
<b>50.0</b>	1.5	1.4	1.6	2.3	3.7
<b>52.5</b>	1.2	1.1	1.2	2.1	2.6
<b>55.0</b>	0.9	0.8	0.9	1.5	2.0
<b>57.5</b>	0.8	0.7	0.8	1.3	2.0
<b>60.0</b>	0.7	0.6	0.6	1.1	2.2
<b>62.5</b>	0.5	0.5	0.5	0.8	1.9
<b>65.0</b>	0.5	0.4	0.5	0.6	2.2
<b>67.5</b>	0.5	0.4	0.5	0.6	1.3
<b>70.0</b>	0.3	0.2	0.3	0.4	0.9
<b>72.5</b>	0.4	0.2	0.3	0.4	0.8
<b>75.0</b>	0.4	0.3	0.4	0.4	0.7
<b>77.5</b>	0.2	0.2	0.1	0.3	0.4

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**CANDELA TABULATION - (Cont.)**

<b>80.0</b>	0.2	0.2	0.2	0.2	0.4
<b>82.5</b>	0.2	0.2	0.2	0.2	0.4
<b>85.0</b>	0.2	0.2	0.2	0.2	0.4
<b>87.5</b>	0.1	0.1	0.1	0.1	0.2
<b>90.0</b>	0.1	0.1	0.1	0.0	0.1
<b>92.5</b>	0.0	0.0	0.0	0.0	0.0
<b>95.0</b>	0.0	0.0	0.0	0.0	0.0
<b>97.5</b>	0.0	0.0	0.0	0.0	0.0
<b>100.0</b>	0.0	0.0	0.0	0.0	0.0
<b>102.5</b>	0.0	0.0	0.0	0.0	0.0
<b>105.0</b>	0.0	0.0	0.0	0.0	0.0
<b>107.5</b>	0.0	0.0	0.0	0.0	0.0
<b>110.0</b>	0.0	0.0	0.0	0.0	0.0
<b>112.5</b>	0.0	0.0	0.0	0.0	0.0
<b>115.0</b>	0.0	0.0	0.0	0.0	0.0
<b>117.5</b>	0.0	0.0	0.0	0.0	0.0
<b>120.0</b>	0.0	0.0	0.0	0.0	0.0
<b>125.0</b>	0.0	0.0	0.0	0.0	0.0
<b>130.0</b>	0.0	0.0	0.0	0.0	0.0
<b>135.0</b>	0.0	0.0	0.0	0.0	0.0
<b>140.0</b>	0.0	0.0	0.0	0.0	0.0
<b>145.0</b>	0.0	0.0	0.0	0.0	0.0
<b>150.0</b>	0.0	0.0	0.0	0.0	0.0
<b>155.0</b>	0.0	0.0	0.0	0.0	0.0
<b>160.0</b>	0.0	0.0	0.0	0.0	0.0
<b>165.0</b>	0.0	0.0	0.0	0.0	0.0
<b>170.0</b>	0.0	0.0	0.0	0.0	0.0
<b>175.0</b>	0.0	0.0	0.0	0.0	0.0
<b>180.0</b>	0.0	0.0	0.0	0.0	0.0

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	22.57	N.A.	54.50
0-30	30.94	N.A.	74.60
0-40	36.70	N.A.	88.50
0-60	40.22	N.A.	97.00
0-80	41.24	N.A.	99.50
0-90	41.44	N.A.	100.00
10-90	31.21	N.A.	75.30
20-40	14.13	N.A.	34.10
20-50	16.49	N.A.	39.80
40-70	4.20	N.A.	10.10
60-80	1.02	N.A.	2.50
70-80	0.35	N.A.	0.80
80-90	0.19	N.A.	0.50
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	41.45	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	10.22
10-20	12.34
20-30	8.37
30-40	5.76
40-50	2.36
50-60	1.17
60-70	0.67
70-80	0.35
80-90	0.19
90-100	0.01
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

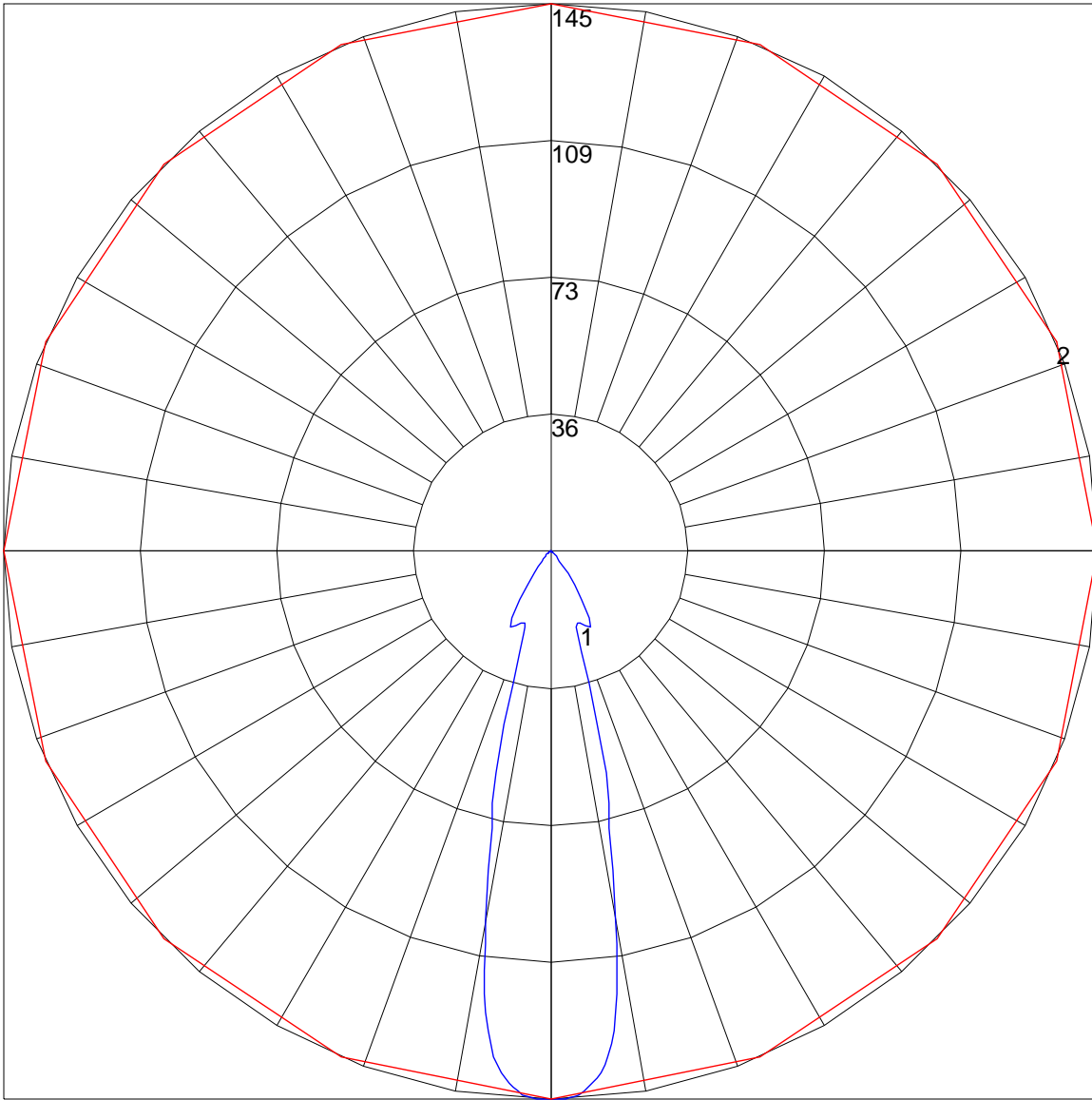
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	120	120	120	120	120	118	118	118	118	112	112	112	108	108	108	103	103	103	101
1	115	112	110	107		112	110	108	106	106	104	102	102	101	99	99	97	96	95
2	109	105	101	97		107	103	99	96	100	97	94	97	94	92	94	92	90	89
3	105	98	94	90		103	97	93	89	94	91	88	92	89	86	90	87	85	83
4	100	93	87	83		98	92	87	83	89	85	82	87	84	81	86	83	80	79
5	96	88	82	78		94	87	82	78	85	81	77	83	80	77	82	79	76	74
6	92	83	78	74		90	83	77	74	81	76	73	80	76	73	78	75	72	71
7	88	79	74	70		87	79	74	70	77	73	69	76	72	69	75	72	69	67
8	84	76	70	67		83	75	70	66	74	70	66	73	69	66	72	69	66	64
9	81	73	67	64		80	72	67	64	71	67	63	70	66	63	70	66	63	62
10	78	70	64	61		77	69	64	61	69	64	61	68	64	61	67	63	60	59

POLAR GRAPH



Maximum Candela = 145.2 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)