



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FSN-5120-OPAL-LED1-1000.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TESTLAB] IESNA:LM-63-2002  
[ISSUE DATE] 09-09-2008  
[MANUFAC] PREPARED FOR: JUSTICE LIGHTING  
[LUMCAT] CATALOG NUMBER: STANDARD SQUARE WALL SCONCE  
[LUMINAIRE] FSN-5120-OPAL-LED-1000- ADA WALL SCONCE MOLDED PLASTIC LENS,  
[LAMP] ONE 13-WATT LED RATED 1000 LUMENS,  
[LAMP] ONE 13-WATT LED LAMP  
[BALLAST] BALLAST:13-W CFL  
[MORE] MOUNTING: WALL TOTAL INPUT WATTS= 13W

**CHARACTERISTICS**

Lumens Per Lamp	1000 (1 lamp)
Total Lamp Lumens	1000
Luminaire Lumens	568
Total Luminaire Efficiency	57 %
Luminaire Efficacy Rating (LER)	44
Total Luminaire Watts	13
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.25 ft
Luminous Width (90-270)	0.40 ft
Luminous Height	1.27 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2296	1636	1127
55	2426	1729	1209
65	2567	1811	1279
75	2698	1885	1364
85	2807	1949	1434

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
<b>0.0</b>	9.504	9.504	9.504	9.504	9.504	9.504	9.504	9.504	9.504
<b>2.5</b>	14.256	12.474	13.662	11.286	11.286	9.504	10.692	8.910	10.692
<b>5.0</b>	17.820	16.038	17.820	14.256	14.256	11.286	13.662	12.474	14.850
<b>7.5</b>	22.572	19.602	21.384	18.414	18.414	15.444	17.820	16.632	19.008
<b>10.0</b>	25.542	24.354	24.948	21.978	20.790	19.008	21.978	20.196	21.978
<b>12.5</b>	28.512	27.324	27.918	23.166	21.978	21.384	24.354	22.572	24.354
<b>15.0</b>	33.264	30.888	30.888	24.948	23.166	22.572	25.542	23.760	24.948
<b>17.5</b>	38.016	35.640	33.858	26.730	23.760	23.166	26.136	23.166	22.572
<b>20.0</b>	43.956	39.798	37.422	28.512	23.760	23.166	25.542	20.790	18.414
<b>22.5</b>	49.302	45.738	40.986	30.294	23.760	21.978	22.572	17.820	15.444
<b>25.0</b>	54.648	50.490	44.550	31.482	23.760	20.790	19.602	15.444	12.474
<b>27.5</b>	59.994	55.242	48.114	33.858	24.354	19.602	17.820	12.474	10.098
<b>30.0</b>	64.746	59.994	51.678	35.640	24.948	19.008	15.444	10.692	8.316
<b>32.5</b>	69.498	64.746	55.836	37.422	25.542	18.414	13.662	8.910	7.128
<b>35.0</b>	73.656	68.904	59.400	39.798	26.730	18.414	12.474	7.722	5.940
<b>37.5</b>	77.814	73.062	62.964	42.174	27.324	17.820	11.286	6.534	5.346
<b>40.0</b>	82.566	77.814	66.528	45.144	28.512	17.820	10.692	5.346	4.752
<b>42.5</b>	86.130	81.378	70.092	46.926	29.700	17.820	10.098	4.752	3.564
<b>45.0</b>	90.882	84.942	73.062	49.302	30.888	17.820	10.098	4.158	3.564
<b>47.5</b>	94.446	89.100	76.626	51.678	32.076	18.414	9.504	3.564	2.970
<b>50.0</b>	98.604	92.664	79.596	53.460	33.264	18.414	9.504	2.970	2.970
<b>52.5</b>	102.168	96.228	82.566	55.836	34.452	19.008	9.504	2.970	2.376
<b>55.0</b>	105.732	100.386	85.536	57.618	35.640	19.602	9.504	2.376	2.376
<b>57.5</b>	109.296	103.356	87.912	59.994	36.234	19.602	9.504	2.376	1.782
<b>60.0</b>	112.860	106.920	90.882	61.776	37.422	20.196	9.504	1.782	1.782
<b>62.5</b>	115.830	109.890	93.258	63.558	38.610	20.790	10.098	1.782	1.782
<b>65.0</b>	118.800	112.860	95.634	65.340	39.204	21.384	10.098	1.782	1.188
<b>67.5</b>	121.770	115.830	98.010	66.528	40.392	21.384	10.098	1.188	1.188
<b>70.0</b>	124.146	118.206	99.792	67.716	40.986	21.978	10.098	1.188	1.188
<b>72.5</b>	125.928	120.582	101.574	68.904	41.580	22.572	10.098	1.188	1.188
<b>75.0</b>	128.304	122.364	102.762	70.092	42.174	22.572	10.098	1.188	1.188
<b>77.5</b>	130.086	124.146	103.950	71.280	42.768	23.166	10.098	1.188	1.188
<b>80.0</b>	131.274	125.334	105.138	71.874	42.768	23.166	10.098	1.188	1.188
<b>82.5</b>	131.868	126.522	105.732	72.468	43.362	23.166	10.098	0.594	0.594
<b>85.0</b>	133.056	127.116	106.326	73.062	43.362	23.166	10.098	0.594	0.594
<b>87.5</b>	133.056	127.710	106.920	73.062	43.362	23.166	10.098	0.594	0.594
<b>90.0</b>	133.650	128.304	106.920	73.062	43.362	23.166	10.098	0.594	0.594
<b>92.5</b>	133.650	128.304	106.920	73.062	43.362	23.166	10.098	0.594	0.594
<b>95.0</b>	133.056	127.710	106.326	73.062	43.362	23.166	10.098	0.594	0.594
<b>97.5</b>	131.868	127.116	105.732	72.468	43.362	23.166	10.098	0.594	0.594
<b>100.0</b>	130.680	125.334	104.544	71.280	42.768	23.166	10.098	0.594	0.594
<b>102.5</b>	129.492	124.146	103.356	70.686	42.174	22.572	10.098	1.188	1.188
<b>105.0</b>	127.710	121.770	102.168	69.498	41.580	22.572	10.098	1.188	1.188
<b>107.5</b>	125.334	119.394	100.386	68.310	40.986	21.978	10.098	1.188	1.188
<b>110.0</b>	122.364	117.018	98.010	67.122	40.392	21.978	10.098	1.188	1.188
<b>112.5</b>	119.988	114.642	96.228	65.340	39.204	21.384	10.098	1.782	1.188
<b>115.0</b>	117.018	111.078	93.852	63.558	38.610	20.790	10.098	1.782	1.782
<b>117.5</b>	114.048	108.108	91.476	61.776	37.422	20.196	9.504	1.782	1.782
<b>120.0</b>	110.484	105.138	88.506	59.994	36.828	20.196	9.504	2.376	1.782
<b>122.5</b>	106.920	101.574	85.536	58.212	35.640	19.602	9.504	2.376	2.376
<b>125.0</b>	103.356	98.010	82.566	56.430	34.452	19.008	9.504	2.970	2.376
<b>127.5</b>	99.792	93.852	79.596	54.054	33.264	18.414	9.504	2.970	2.376
<b>130.0</b>	96.228	90.288	76.626	52.272	32.076	18.414	9.504	3.564	2.970
<b>132.5</b>	92.070	86.724	73.656	49.896	30.888	17.820	10.098	4.158	3.564

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**CANDELA TABULATION - (Cont.)**

<b>135.0</b>	87.912	82.566	70.092	47.520	29.700	17.820	10.098	4.752	4.158
<b>137.5</b>	83.754	79.002	67.122	45.144	28.512	17.226	10.098	5.940	4.752
<b>140.0</b>	80.190	75.438	63.558	42.768	27.324	17.226	10.692	7.128	5.346
<b>142.5</b>	75.438	70.686	59.994	40.392	26.730	17.820	11.880	8.316	6.534
<b>145.0</b>	71.280	66.528	55.836	38.016	25.542	18.414	13.068	10.098	7.722
<b>147.5</b>	66.528	61.182	52.272	35.046	24.948	19.008	14.850	11.880	8.910
<b>150.0</b>	61.776	56.430	48.708	33.264	24.354	19.602	17.226	14.256	10.692
<b>152.5</b>	56.430	51.678	44.550	31.482	23.760	20.790	19.602	16.632	13.068
<b>155.0</b>	50.490	46.926	40.986	30.294	23.760	21.978	23.166	19.602	15.444
<b>157.5</b>	45.144	40.986	37.422	29.106	23.760	23.166	26.136	22.572	18.414
<b>160.0</b>	39.204	36.828	33.858	27.918	24.354	23.760	27.918	25.542	20.790
<b>162.5</b>	34.452	32.076	30.888	26.730	24.354	23.760	27.918	27.918	24.354
<b>165.0</b>	29.700	28.512	29.106	26.136	23.760	22.572	27.324	27.324	26.136
<b>167.5</b>	26.730	25.542	26.730	25.542	22.572	21.384	25.542	25.542	25.542
<b>170.0</b>	23.760	21.978	23.760	23.166	20.790	18.414	22.572	22.572	23.760
<b>172.5</b>	19.602	19.008	21.384	18.414	17.226	14.850	18.414	18.414	21.384
<b>175.0</b>	17.820	16.038	17.820	12.474	12.474	11.286	14.850	13.662	16.632
<b>177.5</b>	12.474	9.504	11.880	9.504	9.504	8.910	10.692	9.504	11.286
<b>180.0</b>	9.504	9.504	9.504	9.504	9.504	9.504	9.504	9.504	9.504

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	9.11	0.90	1.60
0-30	23.09	2.30	4.10
0-40	44.62	4.50	7.90
0-60	116.28	11.60	20.50
0-80	224.25	22.40	39.50
0-90	285.61	28.60	50.30
10-90	283.98	28.40	50.00
20-40	35.51	3.60	6.30
20-50	66.33	6.60	11.70
40-70	122.02	12.20	21.50
60-80	107.97	10.80	19.00
70-80	57.62	5.80	10.20
80-90	61.36	6.10	10.80
90-110	118.57	11.90	20.90
90-120	168.07	16.80	29.60
90-130	207.96	20.80	36.60
90-150	259.00	25.90	45.60
90-180	282.02	28.20	49.70
110-180	163.46	16.30	28.80
0-180	567.63	56.80	100.00

Total Luminaire Efficiency = 56.80%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1.64
10-20	7.47
20-30	13.98
30-40	21.53
40-50	30.82
50-60	40.85
60-70	50.35
70-80	57.62
80-90	61.36
90-100	61.39
100-110	57.17
110-120	49.50
120-130	39.89
130-140	29.99
140-150	21.05
150-160	13.89
160-170	7.52
170-180	1.62

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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	
0	61	61	61	61	56	56	56	56	47	47	47	39	39	39	32	32	32	29
1	52	49	45	42	48	45	42	39	37	35	32	30	28	26	23	22	21	18
2	47	41	36	32	42	37	33	30	31	27	25	25	22	20	19	17	15	12
3	42	35	30	25	38	32	27	23	26	22	19	21	18	15	16	14	12	9
4	38	30	25	21	34	28	23	19	23	19	16	18	15	13	14	11	9	7
5	34	27	21	17	31	24	19	16	20	16	13	16	13	10	12	10	8	6
6	32	24	18	14	29	22	17	13	18	14	11	14	11	9	11	8	6	5
7	29	21	16	12	26	19	15	11	16	12	9	13	10	7	10	7	6	4
8	27	19	14	11	24	17	13	10	14	11	8	11	9	6	9	6	5	3
9	25	17	13	9	23	16	12	9	13	10	7	10	8	6	8	6	4	3
10	23	16	11	8	21	14	10	8	12	9	6	10	7	5	7	5	4	2

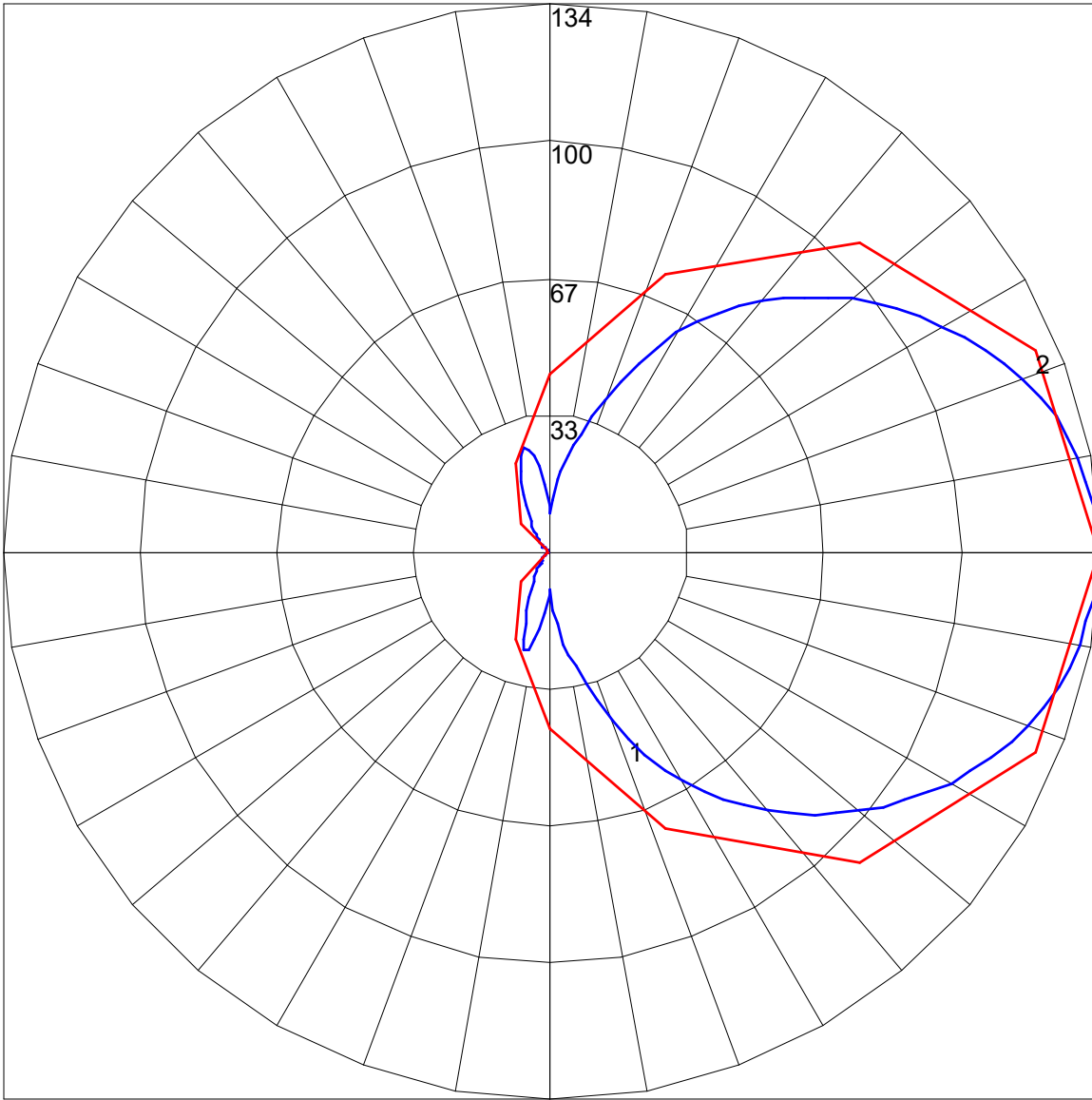
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**UGR TABLE - CORRECTED**

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	14.3	15.3	15.2	16.2	17.5	7.3	8.3	8.2	9.3	10.5
	3H	17.7	18.6	18.6	19.6	20.8	10.1	11.1	11.0	12.0	13.3
	4H	19.3	20.2	20.2	21.2	22.5	11.5	12.4	12.4	13.3	14.6
	6H	20.9	21.8	21.9	22.8	24.1	12.8	13.7	13.7	14.6	15.9
	8H	21.7	22.5	22.6	23.5	24.8	13.4	14.2	14.4	15.2	16.5
	12H	22.4	23.2	23.4	24.2	25.5	14.0	14.8	15.0	15.8	17.1
4H	2H	14.7	15.6	15.7	16.6	17.9	9.3	10.2	10.2	11.2	12.4
	3H	18.4	19.2	19.3	20.2	21.4	12.0	12.8	13.0	13.8	15.1
	4H	20.2	20.9	21.1	21.9	23.2	13.4	14.2	14.3	15.1	16.4
	6H	22.0	22.7	23.0	23.7	25.0	14.8	15.4	15.7	16.4	17.7
	8H	22.9	23.5	23.9	24.5	25.9	15.4	16.0	16.3	17.0	18.4
	12H	23.8	24.4	24.8	25.4	26.7	16.0	16.6	17.0	17.6	19.0
8H	4H	20.5	21.1	21.4	22.1	23.5	14.6	15.3	15.6	16.3	17.6
	6H	22.5	23.1	23.5	24.1	25.4	16.1	16.7	17.1	17.8	19.1
	8H	23.6	24.1	24.6	25.1	26.4	16.9	17.4	17.9	18.4	19.8
	12H	24.7	25.1	25.7	26.1	27.5	17.6	18.1	18.7	19.1	20.5
12H	4H	20.5	21.1	21.5	22.1	23.4	15.0	15.6	16.0	16.6	17.9
	6H	22.6	23.1	23.6	24.2	25.5	16.6	17.1	17.6	18.2	19.5
	8H	23.8	24.2	24.8	25.2	26.6	17.5	17.9	18.5	19.0	20.3

Maximum UGR = 27.5

POLAR GRAPH



Maximum Candela = 133.65 Located At Horizontal Angle = 0, Vertical Angle = 90  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (90) (Through Max. Cd.)