

IES INDOOR REPORT

PHOTOMETRIC FILENAME : FSN-8715-OPAL.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]BALLABS TEST NO. 15311.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] APR-2010
[MANUFAC] JUSTICE DESIGN GROUP
[MORE] PENDANT MOUNT TIER FIXTURE
[LUMINAIRE] TIER RING 15 LIGHT
[MORE] 42"DIA 34" OAH GLASS
[LAMPCAT] 15- A-19 60W RATED 900 LUMENS,
[MORE] 900W AT 120.0 VOLTS

CHARACTERISTICS

Lumens Per Lamp	450 (15 lamps)
Total Lamp Lumens	6750
Luminaire Lumens	3991
Total Luminaire Efficiency	59 %
Luminaire Efficacy Rating (LER)	4
Total Luminaire Watts	900
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.34
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Sphere
Luminous Length (0-180)	0.00 ft
Luminous Width (90-270)	1.13 ft (Diameter)
Luminous Height	0.42 ft (Diameter)

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6963	7090	7260
55	6029	6241	6453
65	5010	5307	5562
75	4076	4373	4628
85	3142	3439	3694

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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>
0.0	863.372	863.372	863.372	863.372	863.372
2.5	863.372	859.448	863.372	859.448	863.372
5.0	859.448	855.524	859.448	859.448	863.372
7.5	855.524	851.599	855.524	855.524	855.524
10.0	851.599	847.675	851.599	851.599	855.524
12.5	843.750	843.750	843.750	847.675	847.675
15.0	835.901	835.901	835.901	839.826	839.826
17.5	824.128	828.053	828.053	831.977	828.053
20.0	812.355	816.279	816.279	820.204	816.279
22.5	800.582	804.506	800.582	808.431	804.506
25.0	788.808	792.733	788.808	796.657	792.733
27.5	773.111	777.035	777.035	784.884	780.960
30.0	757.413	761.338	761.338	773.111	765.262
32.5	741.715	745.640	745.640	757.413	753.489
35.0	726.018	729.942	729.942	741.715	737.791
37.5	706.396	714.244	714.244	726.018	722.093
40.0	686.774	694.622	694.622	710.320	706.396
42.5	667.151	675.000	675.000	690.698	686.774
45.0	643.605	655.378	655.378	675.000	671.076
47.5	623.983	635.756	635.756	655.378	651.454
50.0	604.361	616.134	620.058	639.680	635.756
52.5	580.814	592.587	596.512	620.058	616.134
55.0	557.268	572.965	576.890	596.512	596.512
57.5	533.721	549.419	553.343	576.890	572.965
60.0	510.175	529.797	533.721	557.268	553.343
62.5	486.628	502.326	510.175	533.721	533.721
65.0	463.082	482.704	490.553	514.099	514.099
67.5	439.535	459.157	467.006	490.553	490.553
70.0	419.913	439.535	447.384	470.930	470.930
72.5	396.366	415.989	423.837	451.308	447.384
75.0	376.744	396.366	404.215	431.686	427.762
77.5	353.198	372.820	380.669	408.140	404.215
80.0	329.651	353.198	361.047	388.518	384.593
82.5	310.029	329.651	337.500	364.971	361.047
85.0	290.407	310.029	317.878	345.349	341.425
87.5	266.861	290.407	294.332	321.802	317.878
90.0	251.163	262.936	274.709	294.332	302.180
92.5	235.465	231.541	255.087	266.861	282.558
95.0	215.843	211.919	239.390	243.314	262.936
97.5	196.221	192.297	215.843	219.768	235.465
100.0	176.599	172.674	196.221	200.145	215.843
102.5	156.977	153.052	176.599	180.523	196.221
105.0	141.279	137.355	156.977	160.901	176.599
107.5	121.657	121.657	137.355	141.279	156.977
110.0	109.884	105.959	121.657	125.581	137.355
112.5	90.262	90.262	105.959	105.959	117.733
115.0	78.488	74.564	90.262	90.262	102.035
117.5	66.715	62.791	74.564	74.564	86.337
120.0	54.942	51.017	62.791	62.791	70.640
122.5	43.169	43.169	51.017	51.017	58.866
125.0	35.320	31.395	39.244	39.244	47.093
127.5	27.471	23.547	31.395	27.471	35.320
130.0	19.622	15.698	23.547	19.622	23.547
132.5	11.773	11.773	15.698	11.773	15.698

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CANDELA TABULATION - (Cont.)

135.0	7.849	7.849	11.773	7.849	7.849
137.5	3.924	3.924	3.924	3.924	3.924
140.0	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	318.28	4.70	8.00
0-30	683.91	10.10	17.10
0-40	1143.48	16.90	28.60
0-60	2174.44	32.20	54.50
0-80	3094.22	45.80	77.50
0-90	3444.62	51.00	86.30
10-90	3362.9	49.80	84.30
20-40	825.20	12.20	20.70
20-50	1336.09	19.80	33.50
40-70	1520.01	22.50	38.10
60-80	919.79	13.60	23.00
70-80	430.73	6.40	10.80
80-90	350.39	5.20	8.80
90-110	417.32	6.20	10.50
90-120	504.42	7.50	12.60
90-130	539.59	8.00	13.50
90-150	546.78	8.10	13.70
90-180	546.78	8.10	13.70
110-180	129.46	1.90	3.20
0-180	3991.39	59.10	100.00

Total Luminaire Efficiency = 59.10%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	81.71
10-20	236.56
20-30	365.63
30-40	459.57
40-50	510.89
50-60	520.07
60-70	489.06
70-80	430.73
80-90	350.39
90-100	254.28
100-110	163.04
110-120	87.11
120-130	35.17
130-140	7.19
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	68	68	68	68	66	66	66	66	61	61	61	57	57	57	53	53	53	51
1	60	56	53	50	58	54	51	49	50	48	46	46	44	43	43	41	40	38
2	54	48	43	39	52	46	42	38	43	39	36	39	36	34	37	34	32	30
3	49	42	36	32	46	40	35	31	37	33	29	34	31	28	32	29	26	24
4	44	36	31	26	42	35	30	26	33	28	24	30	26	23	28	25	22	20
5	41	32	27	22	39	31	26	22	29	24	21	27	23	20	25	22	19	17
6	37	29	23	19	36	28	23	19	26	21	18	24	20	17	22	19	16	15
7	35	26	21	17	33	25	20	16	23	19	16	22	18	15	20	17	14	13
8	32	24	18	15	31	23	18	14	21	17	14	20	16	13	19	15	13	11
9	30	22	17	13	29	21	16	13	20	15	12	18	15	12	17	14	11	10
10	28	20	15	12	27	19	15	12	18	14	11	17	13	11	16	13	10	9

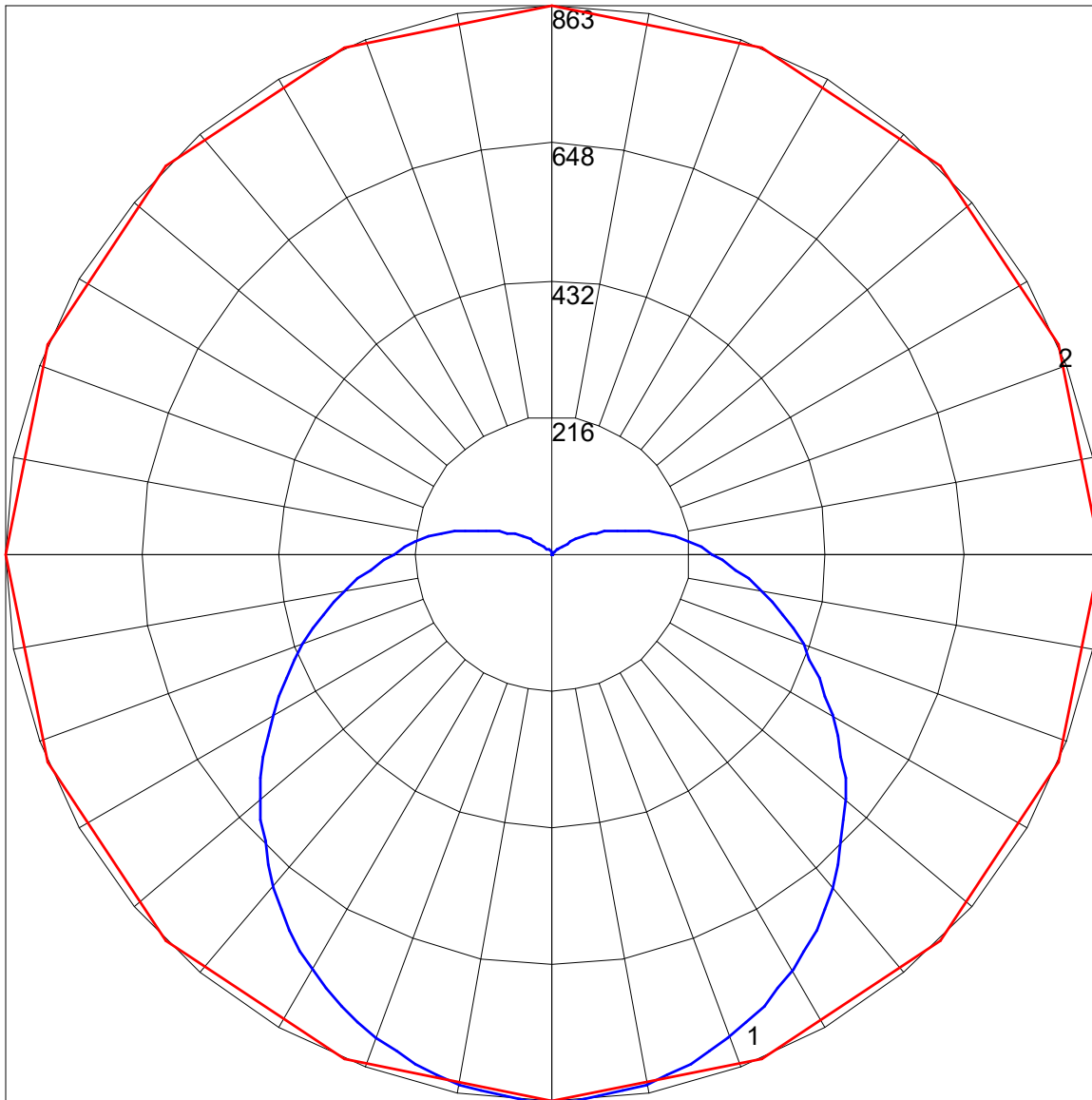
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UGR TABLE - CORRECTED

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	14.6	16.1	15.1	16.6	17.3	15.0	16.4	15.5	17.0	17.6
	3H	16.7	18.1	17.3	18.7	19.3	17.2	18.6	17.8	19.2	19.8
	4H	17.7	19.0	18.3	19.6	20.3	18.3	19.6	18.9	20.2	20.8
	6H	18.6	19.9	19.2	20.5	21.1	19.3	20.5	19.9	21.1	21.8
	8H	19.0	20.2	19.6	20.8	21.5	19.7	20.9	20.3	21.5	22.2
	12H	19.4	20.6	20.1	21.2	21.9	20.2	21.3	20.8	21.9	22.7
4H	2H	15.2	16.5	15.8	17.1	17.8	15.5	16.8	16.1	17.4	18.1
	3H	17.6	18.7	18.2	19.4	20.1	18.0	19.2	18.6	19.8	20.5
	4H	18.7	19.8	19.4	20.4	21.2	19.2	20.3	19.9	20.9	21.7
	6H	19.9	20.8	20.5	21.4	22.2	20.5	21.4	21.1	22.0	22.8
	8H	20.3	21.2	21.0	21.9	22.6	21.0	21.9	21.6	22.5	23.3
	12H	20.8	21.6	21.5	22.3	23.1	21.5	22.3	22.2	23.0	23.8
8H	4H	19.2	20.1	19.8	20.7	21.5	19.6	20.5	20.3	21.2	21.9
	6H	20.5	21.2	21.2	21.9	22.7	21.0	21.8	21.7	22.5	23.2
	8H	21.1	21.8	21.8	22.5	23.3	21.7	22.4	22.4	23.1	23.8
	12H	21.8	22.4	22.4	23.1	23.9	22.4	23.0	23.1	23.7	24.5
12H	4H	19.3	20.1	19.9	20.8	21.5	19.7	20.5	20.3	21.2	21.9
	6H	20.6	21.3	21.3	22.0	22.8	21.1	21.8	21.8	22.5	23.3
	8H	21.3	22.0	22.0	22.7	23.5	21.9	22.5	22.6	23.2	24.0

Maximum UGR = 24.5

POLAR GRAPH



Maximum Candela = 863.372 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.)