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IES INDOOR REPORT
PHOTOMETRIC FILENAME : FSN-8998-MROR.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 13560404.01
[TESTLAB] UL Verification Services Inc.
[ISSUEDATE] 3/4/2021
[MANUFAC] JUSTICE DESIGN GROUP L L C
[LUMCAT] FSN-8998-MROR
[LUMINAIRE] Circular metal housing and frosted glass lens
[LAMP] White LED array
[BALLAST] Internal
[OTHER] 24.3 C, 120.12 V, 0.401504 A, 44.7167 W, 0.927179 PF, 59.9894
[MORE] Hz
[OTHER] This test was performed using the calibrated photodetector met
[MORE] hod of absolute photometry.

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1810
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	40
Total Luminaire Watts	44.7167
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	1.54 ft (Diameter)
Luminous Width (90-270)	1.54 ft (Diameter)
Luminous Height	0.29 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2543	2543	2543
55	2341	2341	2341
65	2092	2092	2092
75	1744	1744	1744
85	1363	1363	1363

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CANDELA TABULATION

	<u>0</u>
0.0	561.210
0.5	559.572
1.0	558.792
1.5	560.508
2.0	559.728
2.5	557.700
3.0	558.558
3.5	558.558
4.0	556.842
4.5	557.466
5.0	558.480
5.5	556.218
6.0	554.346
6.5	554.424
7.0	555.048
7.5	554.112
8.0	554.034
8.5	552.708
9.0	553.254
9.5	552.396
10.0	550.368
10.5	550.368
11.0	549.822
11.5	547.794
12.0	546.780
12.5	548.028
13.0	547.014
13.5	544.986
14.0	544.908
14.5	544.206
15.0	543.192
15.5	543.036
16.0	542.178
16.5	539.682
17.0	538.824
17.5	537.420
18.0	537.498
18.5	534.612
19.0	533.130
19.5	532.194
20.0	530.166
20.5	527.514
21.0	526.344
21.5	525.174
22.0	522.288
22.5	519.714
23.0	517.452
23.5	514.488
24.0	513.162
24.5	510.900
25.0	508.872
25.5	505.050
26.0	502.710
26.5	499.980

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CANDELA TABULATION - (Cont.)

27.0	497.874
27.5	496.002
28.0	493.194
28.5	491.244
29.0	487.344
29.5	484.068
30.0	482.274
30.5	480.168
31.0	477.438
31.5	474.942
32.0	472.212
32.5	469.014
33.0	466.206
33.5	463.086
34.0	459.966
34.5	456.846
35.0	453.492
35.5	450.996
36.0	448.890
36.5	445.848
37.0	442.494
37.5	439.218
38.0	435.084
38.5	430.794
39.0	427.596
39.5	424.944
40.0	421.746
40.5	417.924
41.0	414.414
41.5	411.138
42.0	407.706
42.5	403.962
43.0	400.764
43.5	398.424
44.0	394.992
44.5	390.000
45.0	387.504
45.5	383.838
46.0	379.704
46.5	376.974
47.0	373.386
47.5	369.330
48.0	366.522
48.5	363.168
49.0	359.502
49.5	355.524
50.0	351.546
50.5	348.504
51.0	344.916
51.5	340.704
52.0	336.024
52.5	332.592
53.0	329.472
53.5	325.104
54.0	320.658
54.5	316.914

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CANDELA TABULATION - (Cont.)

55.0	313.482
55.5	308.880
56.0	304.902
56.5	301.002
57.0	296.946
57.5	293.280
58.0	289.146
58.5	284.778
59.0	280.410
59.5	276.900
60.0	273.312
60.5	269.100
61.0	265.122
61.5	261.222
62.0	257.244
62.5	253.032
63.0	248.898
63.5	245.076
64.0	240.942
64.5	236.886
65.0	232.908
65.5	228.462
66.0	224.094
66.5	219.960
67.0	216.060
67.5	212.082
68.0	207.714
68.5	203.502
69.0	199.446
69.5	195.078
70.0	190.944
70.5	187.044
71.0	182.520
71.5	178.386
72.0	174.174
72.5	170.196
73.0	166.140
73.5	161.616
74.0	157.638
74.5	153.660
75.0	148.902
75.5	145.002
76.0	141.336
76.5	137.202
77.0	132.912
77.5	128.778
78.0	125.034
78.5	121.134
79.0	117.234
79.5	113.724
80.0	109.980
80.5	106.314
81.0	102.804
81.5	99.372
82.0	96.018
82.5	92.820

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CANDELA TABULATION - (Cont.)

83.0	89.388
83.5	86.268
84.0	83.460
84.5	80.574
85.0	77.493
85.5	74.615
86.0	72.033
86.5	69.233
87.0	66.323
87.5	63.359
88.0	60.614
88.5	58.016
89.0	55.513
89.5	53.360
90.0	51.106
90.5	49.156
91.0	47.744
91.5	46.621
92.0	45.287
92.5	43.352
93.0	41.012
93.5	37.892
94.0	35.014
94.5	32.347
95.0	29.546
95.5	26.692
96.0	24.157
96.5	21.606
97.0	18.923
97.5	16.271
98.0	13.712
98.5	11.248
99.0	8.915
99.5	6.856
100.0	5.171
100.5	3.736
101.0	2.527
101.5	1.622
102.0	0.944
102.5	0.499
103.0	0.226
103.5	0.070
104.0	0.008
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

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CANDELA TABULATION - (Cont.)

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
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125.5	0.000
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133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

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CANDELA TABULATION - (Cont.)

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
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147.0	0.000
147.5	0.000
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160.5	0.000
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161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

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CANDELA TABULATION - (Cont.)

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	206.39	N.A.	11.40
0-30	440.59	N.A.	24.30
0-40	724.72	N.A.	40.00
0-60	1303.66	N.A.	72.00
0-80	1691.83	N.A.	93.50
0-90	1777.29	N.A.	98.20
10-90	1724.32	N.A.	95.30
20-40	518.33	N.A.	28.60
20-50	817.31	N.A.	45.20
40-70	809.12	N.A.	44.70
60-80	388.16	N.A.	21.40
70-80	157.98	N.A.	8.70
80-90	85.46	N.A.	4.70
90-110	32.61	N.A.	1.80
90-120	32.61	N.A.	1.80
90-130	32.61	N.A.	1.80
90-150	32.61	N.A.	1.80
90-180	32.61	N.A.	1.80
110-180	0.00	N.A.	0.00
0-180	1809.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	52.97
10-20	153.42
20-30	234.20
30-40	284.13
40-50	298.99
50-60	279.95
60-70	230.18
70-80	157.98
80-90	85.46
90-100	31.96
100-110	0.66
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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	107	101	96	92	104	99	94	90	94	91	87	90	87	84	86	84	81	79
2	96	88	80	74	94	85	79	73	81	76	71	78	73	69	75	71	67	65
3	88	76	68	61	85	75	67	60	71	64	59	68	62	57	65	60	56	54
4	80	67	58	51	78	66	57	51	63	56	50	61	54	49	58	53	48	46
5	73	60	51	44	71	59	50	43	56	49	43	54	47	42	52	46	41	39
6	68	54	45	38	66	53	44	38	51	43	37	49	42	37	47	41	36	34
7	63	49	40	33	61	48	39	33	46	38	33	45	38	32	43	37	32	30
8	58	44	36	30	57	44	35	30	42	35	29	41	34	29	39	33	29	27
9	55	41	32	27	53	40	32	27	39	31	26	38	31	26	36	30	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	28	24	34	28	23	22

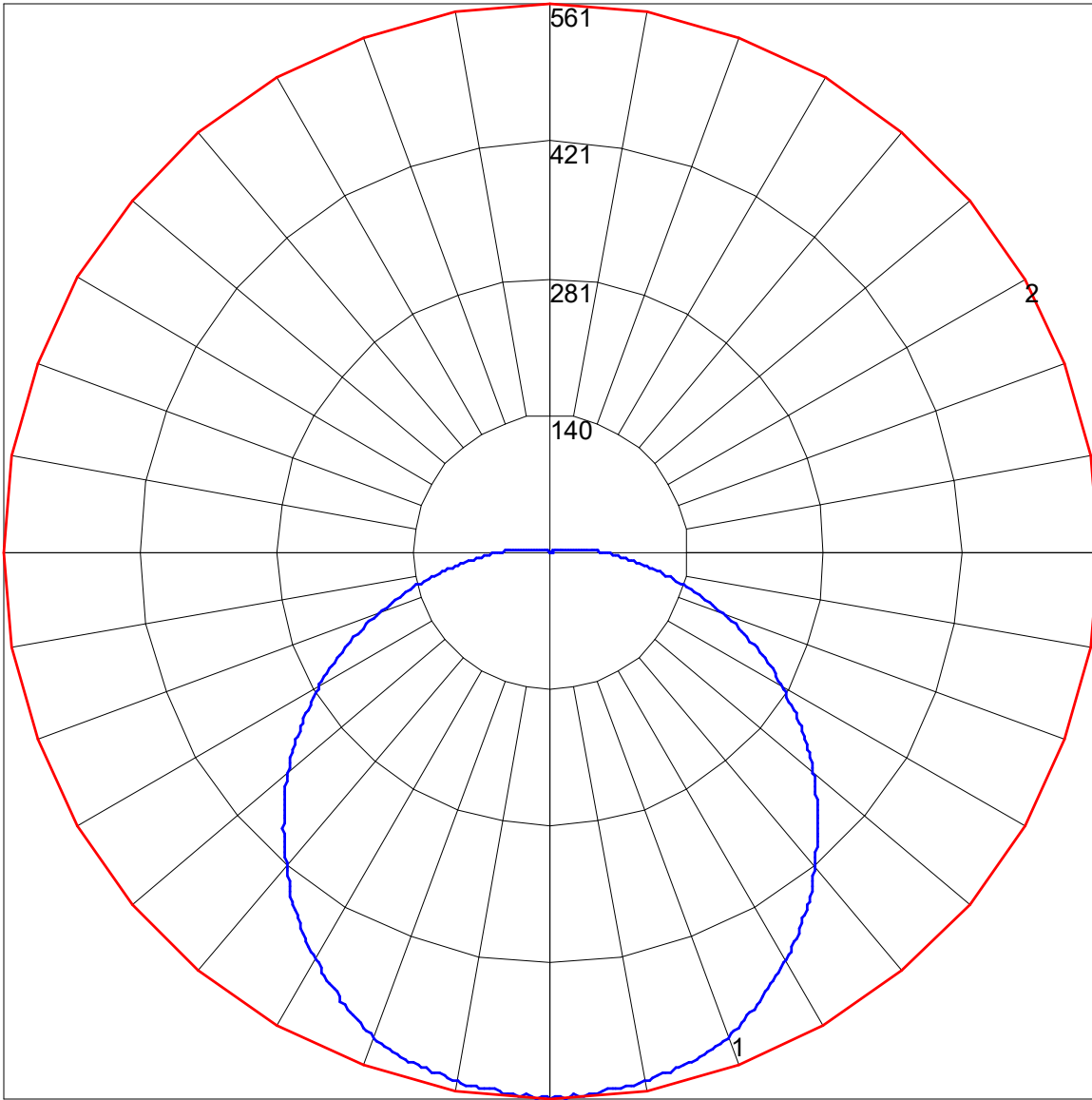
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UGR TABLE - CORRECTED

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	14.0	15.7	14.4	16.0	16.4	14.0	15.7	14.4	16.0	16.4
	3H	16.0	17.5	16.4	17.8	18.2	16.0	17.5	16.4	17.8	18.2
	4H	16.7	18.2	17.2	18.6	19.0	16.7	18.2	17.2	18.6	19.0
	6H	17.4	18.7	17.9	19.1	19.6	17.4	18.7	17.9	19.1	19.6
	8H	17.7	18.9	18.1	19.4	19.8	17.7	18.9	18.1	19.4	19.8
	12H	17.9	19.1	18.4	19.5	20.0	17.9	19.1	18.4	19.5	20.0
4H	2H	14.6	16.1	15.1	16.5	16.9	14.6	16.1	15.1	16.5	16.9
	3H	16.8	18.0	17.2	18.5	18.9	16.8	18.0	17.2	18.5	18.9
	4H	17.7	18.8	18.2	19.3	19.8	17.7	18.8	18.2	19.3	19.8
	6H	18.5	19.5	19.0	20.0	20.5	18.5	19.5	19.0	20.0	20.5
	8H	18.9	19.8	19.3	20.2	20.8	18.9	19.8	19.3	20.2	20.8
	12H	19.2	20.0	19.7	20.5	21.0	19.2	20.0	19.7	20.5	21.0
8H	4H	18.1	19.0	18.5	19.5	20.0	18.1	19.0	18.5	19.5	20.0
	6H	19.0	19.8	19.5	20.3	20.8	19.0	19.8	19.5	20.3	20.8
	8H	19.4	20.1	20.0	20.7	21.2	19.4	20.1	20.0	20.7	21.2
	12H	19.9	20.5	20.4	21.0	21.6	19.9	20.5	20.4	21.0	21.6
12H	4H	18.1	18.9	18.6	19.4	20.0	18.1	18.9	18.6	19.4	20.0
	6H	19.1	19.8	19.7	20.3	20.9	19.1	19.8	19.7	20.3	20.9
	8H	19.6	20.2	20.1	20.7	21.3	19.6	20.2	20.1	20.7	21.3

Maximum UGR = 21.6

POLAR GRAPH



Maximum Candela = 561.21 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.)