



IES INDOOR REPORT

PHOTOMETRIC FILENAME : IPR8MS_CLEARLENS.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TESTLAB]
 [ISSUE DATE] Wed May 16 2012
 [TEST] IPR8MS
 [TEST DATE] Wed May 16 10:17:31 2012
 [MANUFAC]
 [LUMINAIRE] IPR8MS
 [LAMP] Fluor. 32W 4' T8
 [LAMPCAT] FO32/31K
 [OTHER] OPTIONS:

CHARACTERISTICS

Lumens Per Lamp	2900 (2 lamps)
Total Lamp Lumens	5800
Luminaire Lumens	4495
Total Luminaire Efficiency	78 %
Luminaire Efficacy Rating (LER)	64
Total Luminaire Watts	70
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.42
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.02 ft
Luminous Width (90-270)	0.26 ft
Luminous Height	0.26 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9249	6353	6148
55	8294	5476	5617
65	7277	4598	5009
75	4815	4063	4876
85	1466	4190	4531

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CANDELA TABULATION

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57
5	1020.32	927.38	1019.36	965.31	987.31	981.03	935.99	1038.00	938.26	907.14
10	987.68	915.75	981.82	978.66	962.41	975.82	940.78	976.89	978.48	956.72
15	953.48	945.34	958.94	957.70	976.49	948.59	962.65	1009.67	962.85	945.81
20	875.75	917.59	947.66	938.22	923.27	925.43	934.09	938.24	950.05	951.37
25	888.39	872.62	918.60	895.37	879.67	935.55	913.01	919.54	925.16	910.76
30	836.76	843.56	845.81	843.18	874.64	882.55	904.27	928.95	927.05	920.38
35	800.38	781.82	815.93	828.86	828.04	857.55	866.46	882.93	887.39	906.37
40	722.25	742.36	749.92	755.14	801.71	810.07	850.82	839.69	872.20	870.07
45	668.24	668.51	694.74	692.72	745.77	780.00	790.94	795.57	818.07	844.09
50	582.82	599.58	619.33	633.83	666.35	709.09	743.86	778.05	806.88	791.47
55	498.83	517.54	531.95	568.86	601.27	664.50	713.32	734.69	761.40	761.11
60	411.61	426.67	433.14	478.35	535.28	595.63	658.39	680.88	707.18	685.84
65	336.33	335.84	356.30	404.11	465.85	523.08	591.67	608.75	640.38	649.19
70	223.26	233.51	268.65	340.63	406.09	478.77	530.50	583.49	581.95	604.23
75	148.70	160.38	196.21	272.59	365.10	416.81	507.28	521.01	573.70	583.90
80	82.54	85.05	152.78	241.70	328.25	411.23	475.44	512.25	552.06	555.12
85	21.42	49.52	125.77	221.13	309.22	378.00	437.36	457.97	474.74	481.45
90	2.19	35.22	94.09	175.47	248.20	305.06	343.49	388.67	382.64	409.14
95	1.50	32.67	90.74	174.92	246.99	304.22	362.54	396.87	422.62	418.72
100	0.84	25.47	88.12	160.43	225.90	287.90	338.27	374.19	384.74	396.67
105	0.40	16.79	74.02	151.76	213.16	263.69	322.59	348.76	378.39	379.73
110	0.14	9.85	53.58	123.11	190.39	236.49	297.37	314.80	350.80	341.03
115	0.00	5.68	35.60	86.80	157.88	222.38	251.21	292.95	305.52	316.55
120	0.00	5.22	22.78	65.68	123.39	169.06	211.17	245.09	256.40	274.57
125	0.00	1.68	15.33	43.86	87.07	126.88	170.19	185.58	207.26	212.77
130	0.00	1.29	9.68	26.59	61.55	92.78	121.59	157.38	158.07	167.71
135	0.00	1.19	7.79	18.97	34.65	62.41	87.10	113.56	133.52	132.37
140	0.00	0.31	3.74	13.17	28.05	36.75	52.13	69.89	90.05	92.87
145	0.00	0.49	3.44	9.19	19.20	26.51	30.93	42.01	58.40	52.18
150	0.00	0.38	2.22	8.34	13.55	17.26	22.77	24.02	25.74	29.32
155	0.00	0.30	0.46	3.24	10.75	14.87	19.39	21.26	16.88	20.77
160	0.00	0.00	0.70	2.04	4.18	8.37	10.41	14.72	12.59	14.13
165	0.00	0.00	0.00	0.19	0.37	1.37	3.37	2.30	5.59	4.78
170	0.00	0.00	0.00	0.00	0.00	1.57	0.29	3.74	2.36	2.20
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31	1.57	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57
5	955.49	930.12	1044.15	936.67	1022.23	983.49	954.01	1004.36	953.19	947.17
10	991.87	985.25	959.35	934.80	974.20	997.39	977.94	925.68	921.81	942.53
15	975.77	1001.69	966.65	962.34	950.01	944.36	941.62	922.90	965.85	970.00
20	977.13	954.89	921.60	938.11	930.71	940.73	922.72	894.59	918.08	896.66
25	949.31	941.87	927.64	928.87	909.80	900.55	870.41	879.41	891.03	882.54
30	934.32	923.95	907.56	874.98	874.86	852.55	857.53	833.98	848.80	848.07
35	904.02	893.02	860.83	836.87	826.76	822.99	797.86	800.96	799.48	793.87
40	846.10	853.35	806.70	775.88	797.11	767.80	777.46	739.65	738.58	737.67
45	821.41	818.77	776.48	761.82	736.28	720.57	692.77	678.50	659.53	685.70
50	808.03	763.73	736.84	732.61	664.58	626.69	616.38	601.71	589.25	593.88
55	748.28	735.95	674.75	653.87	602.84	553.44	533.67	508.14	497.65	526.79
60	683.64	671.19	648.98	595.81	543.55	488.92	453.95	437.02	411.72	427.01

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CANDELA TABULATION - (Cont.)

65	645.08	609.25	589.03	538.99	481.15	408.65	358.76	329.63	323.06	334.57
70	596.54	570.85	526.02	467.79	410.48	347.04	261.25	249.70	237.23	241.59
75	562.42	536.01	502.00	439.18	368.77	280.11	210.73	161.15	145.70	161.29
80	550.46	517.69	482.76	410.41	333.84	239.67	146.05	94.00	63.70	91.14
85	470.39	454.55	426.61	369.31	310.22	207.38	121.82	44.18	19.71	50.46
90	389.38	388.74	348.86	295.19	249.14	173.98	96.78	34.19	2.21	33.41
95	413.21	398.32	355.08	309.83	241.31	171.36	93.65	32.53	1.80	35.65
100	382.56	368.64	328.62	294.24	224.97	166.19	89.45	27.73	0.54	28.31
105	362.60	354.38	326.96	276.46	212.72	143.84	72.06	15.31	0.35	18.08
110	345.93	322.71	293.56	262.67	189.32	119.67	57.82	12.40	0.10	10.73
115	306.76	283.66	254.72	207.67	163.91	96.06	37.18	5.66	0.15	6.43
120	259.01	241.77	206.49	171.75	120.43	64.66	22.82	4.33	0.00	3.29
125	217.07	207.71	168.49	138.14	88.40	42.07	19.00	2.98	0.17	2.25
130	157.45	155.89	139.02	95.49	60.01	25.10	9.79	1.43	0.00	1.13
135	118.93	115.15	92.70	62.49	34.67	16.51	6.63	1.98	0.00	0.86
140	85.12	68.54	53.78	39.19	22.63	15.78	3.43	0.28	0.00	0.59
145	45.15	47.76	36.89	27.09	15.99	10.62	4.03	0.99	0.00	1.09
150	31.41	26.55	17.32	24.41	9.05	7.33	2.25	0.00	0.00	0.00
155	22.60	16.14	19.00	11.24	6.18	1.86	0.32	0.00	0.00	0.00
160	11.68	11.02	8.28	6.68	4.09	1.34	0.80	0.00	0.00	0.00
165	8.35	3.53	3.75	0.68	1.58	1.02	0.00	0.00	0.00	0.00
170	0.20	2.36	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Vert.
Angles**

Horizontal Angles

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57	980.57
5	1007.95	962.72	1043.45	1014.12	977.74	952.21	1037.46	1002.13	975.39	1034.53
10	922.02	976.56	943.14	960.42	998.29	930.36	980.71	906.38	954.76	987.44
15	946.56	943.41	958.34	969.65	958.65	971.92	973.77	993.02	940.49	946.41
20	907.67	937.28	939.19	962.89	928.85	919.36	975.42	948.05	948.71	972.80
25	898.92	885.19	915.90	927.31	921.91	918.38	948.36	923.91	916.79	939.72
30	854.71	873.59	874.60	884.61	901.92	910.12	911.89	910.06	911.49	917.54
35	821.92	822.36	846.17	839.11	852.61	888.58	892.95	906.31	906.09	863.56
40	763.26	774.72	775.91	809.47	836.17	859.35	858.89	861.74	884.30	860.70
45	686.87	709.31	744.00	754.97	802.11	801.11	839.45	834.42	836.94	794.99
50	614.59	636.24	673.64	702.27	754.98	788.29	787.46	780.99	809.37	784.75
55	530.10	560.70	607.40	660.88	719.65	748.19	752.75	755.89	736.12	728.73
60	449.21	481.83	542.21	590.00	624.21	682.34	681.08	695.57	684.03	673.53
65	356.52	413.99	480.32	549.38	578.56	609.87	647.97	644.26	647.97	618.96
70	264.14	335.05	414.84	464.44	536.77	560.69	596.17	599.31	610.18	577.97
75	207.09	277.47	374.40	430.99	499.72	552.40	571.11	571.80	546.45	538.55
80	148.86	240.81	323.04	414.50	484.09	527.29	552.49	546.01	554.92	521.96
85	124.22	219.34	297.79	375.85	421.07	461.93	471.66	485.71	480.30	462.40
90	104.18	170.86	255.33	298.07	353.41	385.36	401.48	411.02	394.60	386.33
95	92.01	164.36	248.86	307.63	361.70	403.22	414.81	427.13	410.38	398.53
100	86.98	160.88	226.42	286.96	333.51	375.42	382.60	388.83	386.03	374.74
105	73.53	145.35	222.95	276.70	315.97	348.83	358.49	387.34	359.68	356.11
110	52.72	117.76	192.19	247.84	291.64	342.25	346.53	353.15	346.25	317.41
115	39.83	96.30	152.67	218.37	257.35	291.82	306.48	308.06	309.78	282.47
120	21.71	64.94	124.26	171.40	214.53	241.06	265.12	265.27	264.05	245.72
125	14.07	39.40	94.77	136.23	172.10	195.22	211.34	217.88	225.23	199.26
130	11.63	27.77	54.59	98.86	122.39	162.32	166.33	172.97	162.48	152.00
135	7.62	14.60	36.18	59.26	89.14	109.99	121.18	124.12	127.88	115.10

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CANDELA TABULATION - (Cont.)

140	6.63	16.27	22.53	35.13	59.06	68.56	84.49	89.82	87.80	66.48
145	2.96	9.99	15.37	25.60	35.73	44.27	55.97	51.38	46.80	37.58
150	1.32	4.92	11.45	17.25	22.09	26.68	27.83	33.73	31.88	23.89
155	0.82	3.12	6.84	10.55	17.70	17.53	18.14	20.11	23.00	16.65
160	1.40	2.52	3.07	6.53	8.71	11.63	12.60	11.33	11.21	10.08
165	0.00	0.53	1.06	2.72	5.04	2.66	4.63	5.94	6.00	8.58
170	0.00	0.79	0.00	0.79	1.01	0.15	1.52	0.79	1.85	1.05
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Vert.
Angles**

Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	980.57	980.57	980.57	980.57	980.57	980.57	980.57
5	923.22	1014.96	979.19	939.58	926.25	1003.80	1020.32
10	1011.25	952.95	1004.51	959.12	959.79	959.54	987.68
15	934.46	949.46	939.47	942.96	952.92	952.36	953.48
20	948.56	947.88	925.49	950.96	915.38	887.88	875.75
25	904.68	910.00	908.25	921.05	893.92	879.49	888.39
30	882.65	887.78	878.22	879.95	864.31	828.49	836.76
35	851.08	840.32	826.01	822.63	780.41	802.02	800.38
40	843.00	794.23	798.39	753.18	755.35	755.51	722.25
45	790.54	767.98	752.45	706.75	704.79	654.75	668.24
50	746.00	705.85	673.74	636.12	619.32	604.31	582.82
55	704.87	646.59	604.34	578.65	542.42	524.96	498.83
60	627.74	605.29	537.46	479.94	445.05	423.83	411.61
65	580.79	540.07	465.28	406.77	359.53	335.05	336.33
70	548.58	480.72	409.52	330.67	270.51	240.78	223.26
75	493.84	453.48	363.40	276.86	200.69	164.04	148.70
80	473.24	416.46	335.10	240.69	146.25	105.51	82.54
85	426.30	371.71	296.05	218.06	121.76	42.65	21.42
90	347.04	307.36	239.01	180.97	99.27	33.12	2.19
95	362.43	308.74	241.78	174.74	99.89	32.33	1.50
100	334.59	296.64	224.00	156.39	92.27	25.32	0.84
105	321.99	271.60	223.14	148.12	75.30	17.99	0.40
110	299.82	243.96	190.75	114.97	53.44	10.08	0.14
115	255.43	214.15	156.02	94.82	36.97	5.78	0.00
120	209.87	167.83	115.16	66.80	21.23	5.47	0.00
125	170.01	130.27	91.54	43.73	17.52	1.93	0.00
130	130.43	104.00	51.57	24.98	10.19	3.75	0.00
135	87.33	62.08	33.54	20.67	7.21	1.50	0.00
140	55.41	39.01	23.89	14.52	5.05	0.69	0.00
145	33.60	24.78	16.54	8.83	2.99	0.48	0.00
150	22.52	16.67	12.13	6.03	0.70	0.17	0.00
155	17.72	10.01	6.70	4.21	0.32	0.00	0.00
160	10.65	7.60	4.12	1.55	0.64	0.00	0.00
165	8.10	2.37	1.50	0.20	0.60	0.00	0.00
170	0.79	0.79	0.79	0.79	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	362.80	6.30	8.10
0-30	782.85	13.50	17.40
0-40	1311.16	22.60	29.20
0-60	2455.05	42.30	54.60
0-80	3348.68	57.70	74.50
0-90	3670.87	63.30	81.70
10-90	3577.96	61.70	79.60
20-40	948.36	16.40	21.10
20-50	1527.67	26.30	34.00
40-70	1633.5	28.20	36.30
60-80	893.63	15.40	19.90
70-80	404.01	7.00	9.00
80-90	322.19	5.60	7.20
90-110	493.38	8.50	11.00
90-120	659.88	11.40	14.70
90-130	757.62	13.10	16.90
90-150	818.75	14.10	18.20
90-180	824.42	14.20	18.30
110-180	331.05	5.70	7.40
0-180	4495.29	77.50	100.00

Total Luminaire Efficiency = 77.50%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	92.90
10-20	269.90
20-30	420.05
30-40	528.31
40-50	579.31
50-60	564.57
60-70	489.62
70-80	404.01
80-90	322.19
90-100	265.16
100-110	228.21
110-120	166.50
120-130	97.74
130-140	45.36
140-150	15.77
150-160	4.76
160-170	0.88
170-180	0.03

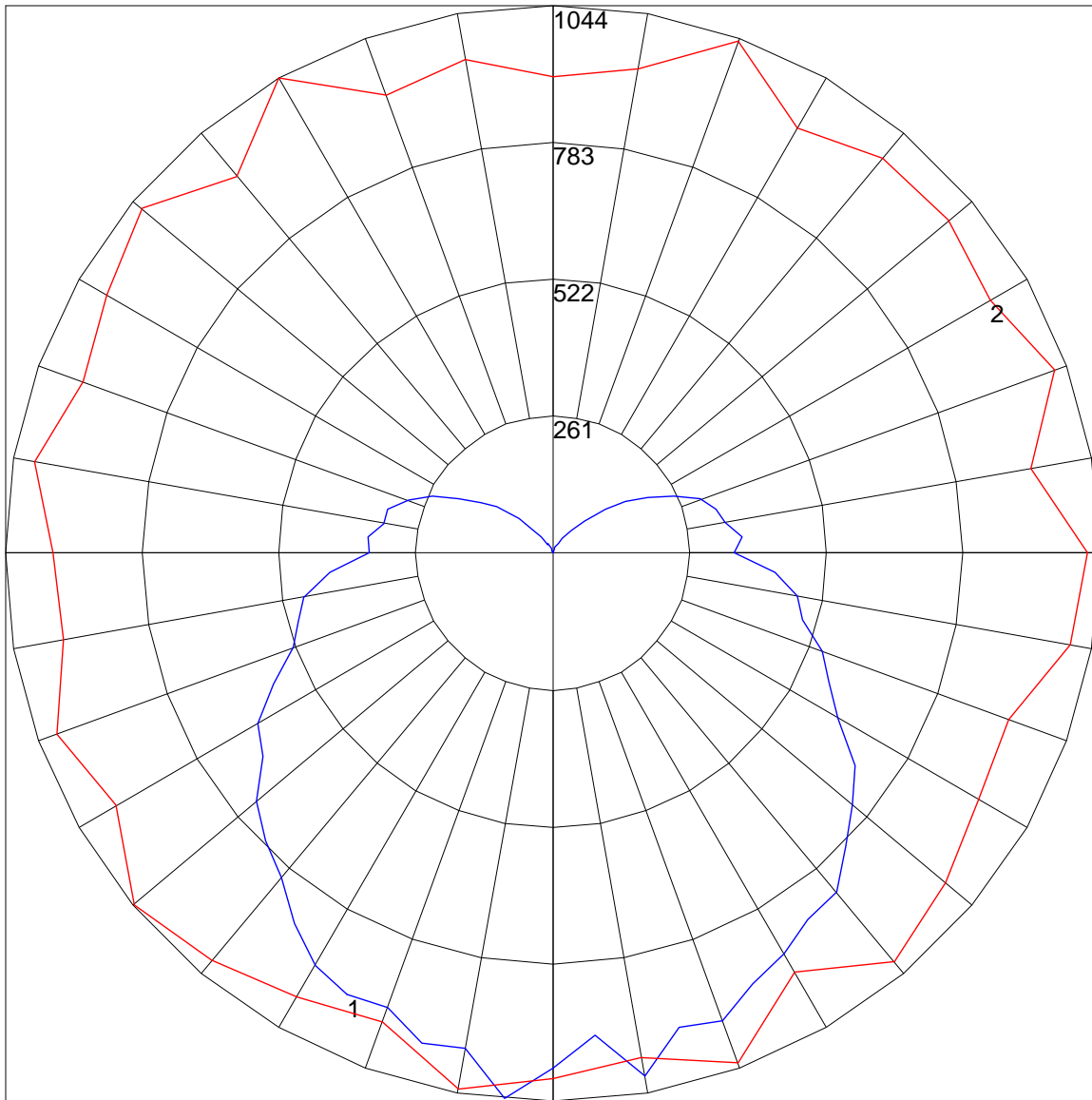
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	89	89	89	89	85	85	85	85	78	78	78	72	72	72	66	66	66	63
1	79	74	70	67	75	71	67	64	65	62	59	60	57	55	55	53	51	48
2	71	64	58	53	67	61	55	51	56	51	48	51	47	44	47	44	41	39
3	64	55	48	43	61	53	47	42	49	43	39	45	40	37	41	37	34	32
4	59	49	41	36	56	47	40	35	43	37	33	39	35	31	36	32	29	27
5	54	43	36	30	51	41	35	30	38	32	28	35	30	26	32	28	25	23
6	49	39	31	26	47	37	30	26	34	28	24	32	27	23	29	25	22	20
7	46	35	28	23	43	34	27	22	31	25	21	29	24	20	26	22	19	17
8	42	32	25	20	40	30	24	20	28	23	19	26	21	18	24	20	17	15
9	39	29	22	18	38	28	22	18	26	21	17	24	19	16	22	18	15	14
10	37	27	20	16	35	26	20	16	24	19	15	22	18	14	21	17	14	12

POLAR GRAPH



Maximum Candela = 1044.15 Located At Horizontal Angle = 120, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (120 - 300) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)