



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : IPR8MS\_FROSTEDLENS.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TESTLAB]  
 [ISSUE DATE] Wed May 16 2012  
 [TEST] IPR8MS\_FrostedLens  
 [TEST DATE] Wed May 16 10:28:52 2012  
 [MANUFAC]  
 [LUMINAIRE] IPR8MS\_FrostedLens  
 [LAMP] Fluor. 32W 4' T8  
 [LAMPCAT] FO32/31K  
 [OTHER] OPTIONS:

### CHARACTERISTICS

Lumens Per Lamp	2900 (2 lamps)
Total Lamp Lumens	5800
Luminaire Lumens	3270
Total Luminaire Efficiency	56 %
Luminaire Efficacy Rating (LER)	47
Total Luminaire Watts	70
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.22
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	5767	4287	4316
55	5125	3842	3935
65	4476	3326	3452
75	3476	2880	3266
85	1501	2472	3014

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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>
<b>0</b>	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55
<b>5</b>	670.76	658.92	698.33	649.90	646.24	627.94	654.42	662.71	710.09	639.60
<b>10</b>	668.73	689.84	655.97	701.42	675.14	681.66	683.73	691.66	703.64	622.21
<b>15</b>	620.09	646.72	648.77	665.30	680.30	684.40	665.81	674.27	680.57	698.15
<b>20</b>	606.60	623.16	651.66	647.51	665.51	629.06	677.20	667.88	664.30	672.82
<b>25</b>	580.13	601.86	586.82	595.18	621.38	624.90	633.37	654.03	661.54	670.21
<b>30</b>	546.70	535.27	568.35	587.38	610.88	629.22	628.74	640.75	644.68	645.42
<b>35</b>	512.45	502.22	535.56	566.23	587.11	596.89	595.61	620.79	634.60	621.62
<b>40</b>	471.95	481.56	504.92	518.86	548.56	553.57	600.42	594.52	615.03	626.05
<b>45</b>	416.70	424.78	454.54	486.50	492.42	537.23	564.79	569.82	577.03	592.60
<b>50</b>	368.64	377.67	413.39	451.88	466.68	502.52	535.63	526.56	562.29	538.68
<b>55</b>	308.23	336.15	366.90	400.65	432.58	455.44	491.95	505.72	514.86	533.29
<b>60</b>	263.37	272.39	313.89	338.62	387.87	425.09	458.15	469.31	474.61	494.26
<b>65</b>	206.86	227.64	268.60	324.49	335.26	380.12	412.59	441.21	457.52	447.38
<b>70</b>	156.67	175.17	214.82	255.96	294.99	334.24	359.17	403.22	424.04	430.62
<b>75</b>	107.33	132.88	164.54	204.75	252.49	301.72	323.94	365.49	374.57	391.08
<b>80</b>	61.19	81.22	121.62	168.06	206.33	259.91	283.73	317.73	343.55	344.62
<b>85</b>	21.93	43.93	86.65	133.37	185.01	220.40	253.76	297.53	316.78	320.23
<b>90</b>	6.31	25.29	65.65	115.43	158.71	197.40	242.96	270.22	297.29	306.92
<b>95</b>	2.82	23.85	67.27	105.29	155.62	201.59	242.18	269.81	297.45	295.18
<b>100</b>	3.60	24.42	61.54	109.23	151.56	193.13	230.04	260.96	270.60	288.07
<b>105</b>	3.58	22.86	62.32	101.53	151.50	185.96	221.76	254.90	269.81	284.60
<b>110</b>	3.23	19.45	61.41	106.63	144.98	178.76	214.65	239.06	256.00	260.12
<b>115</b>	3.95	20.57	53.84	99.78	125.53	169.54	195.41	232.61	240.22	236.63
<b>120</b>	2.60	16.82	48.12	89.63	135.55	162.22	181.36	206.68	223.79	232.78
<b>125</b>	2.64	16.69	50.36	84.22	115.43	144.45	176.70	182.27	209.42	212.18
<b>130</b>	1.75	15.11	39.78	71.11	106.16	134.92	156.90	168.49	174.13	191.49
<b>135</b>	2.43	14.67	37.23	64.51	89.98	119.76	138.27	152.59	159.07	158.43
<b>140</b>	1.91	9.15	32.84	57.52	80.12	101.55	132.80	143.60	141.94	148.65
<b>145</b>	1.97	8.47	27.74	41.21	64.22	92.35	98.76	116.94	128.57	130.22
<b>150</b>	2.51	7.19	15.10	35.24	54.73	78.33	90.19	95.92	96.76	103.61
<b>155</b>	1.24	5.54	16.35	25.01	44.36	63.28	73.60	77.16	84.98	82.77
<b>160</b>	1.02	4.82	13.16	28.90	30.57	43.47	48.85	62.34	62.77	55.47
<b>165</b>	1.28	3.20	5.56	12.56	20.43	27.95	38.62	41.88	38.63	45.96
<b>170</b>	0.00	2.93	4.02	3.42	14.27	12.31	19.49	20.00	27.97	20.57
<b>175</b>	0.00	0.00	1.62	1.36	3.09	8.25	7.25	6.35	10.19	5.54
<b>180</b>	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58

**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>
<b>0</b>	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55
<b>5</b>	624.93	639.22	724.45	707.19	681.59	679.17	672.30	669.29	669.83	686.74
<b>10</b>	696.68	676.67	688.75	682.51	666.40	664.80	620.25	680.31	673.67	661.15
<b>15</b>	680.26	694.91	685.11	667.82	675.71	618.98	653.79	662.23	622.62	615.31
<b>20</b>	680.33	667.90	679.77	661.08	647.13	635.08	609.60	624.00	619.79	627.96
<b>25</b>	666.94	652.71	655.66	637.41	617.40	606.33	570.05	587.76	574.85	598.92
<b>30</b>	633.17	648.83	648.41	606.30	606.43	579.80	560.76	558.80	528.00	545.04
<b>35</b>	636.65	593.94	595.82	582.84	587.34	560.81	521.91	511.65	506.56	526.45
<b>40</b>	600.54	587.98	597.25	554.39	539.94	517.65	492.43	465.65	486.05	466.45
<b>45</b>	588.91	570.19	563.11	523.95	507.69	471.27	447.54	412.95	421.44	423.57
<b>50</b>	552.28	544.70	525.10	480.59	464.38	444.36	405.89	385.88	369.63	390.86
<b>55</b>	500.88	500.75	489.97	468.62	431.51	397.49	351.94	333.19	311.35	325.97
<b>60</b>	489.24	490.86	453.00	431.80	374.89	350.96	308.23	273.72	262.96	266.48

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	461.89	436.88	416.28	380.27	338.23	297.81	266.91	220.31	211.37	217.05
<b>70</b>	414.72	399.73	363.43	344.55	309.99	250.98	212.44	180.57	158.37	176.80
<b>75</b>	388.98	363.70	342.62	288.22	248.16	214.65	165.83	126.15	112.79	119.55
<b>80</b>	343.45	317.45	287.98	256.64	216.48	167.93	122.29	80.69	58.19	78.01
<b>85</b>	315.97	288.11	258.70	212.24	180.34	129.01	81.91	41.88	22.90	40.00
<b>90</b>	296.25	273.67	251.98	214.35	165.33	116.94	70.16	23.39	6.25	26.10
<b>95</b>	284.27	263.93	237.75	197.03	152.28	109.82	70.30	23.45	4.13	24.49
<b>100</b>	282.86	259.61	234.05	193.14	150.87	110.16	61.89	24.62	2.76	23.24
<b>105</b>	271.19	253.19	223.57	195.26	147.49	104.93	58.96	22.49	3.53	22.35
<b>110</b>	254.45	237.15	220.24	183.82	137.57	106.71	59.65	19.66	2.76	20.79
<b>115</b>	243.49	215.93	195.81	170.33	135.31	95.08	57.36	19.90	2.96	20.48
<b>120</b>	208.42	219.22	191.78	156.05	119.96	91.27	51.10	19.49	3.17	19.33
<b>125</b>	209.40	193.73	175.74	145.43	119.79	80.79	46.80	17.36	3.19	16.74
<b>130</b>	179.49	165.78	148.98	131.97	108.28	72.38	43.19	15.38	2.60	18.00
<b>135</b>	154.54	152.22	143.15	122.14	90.43	57.78	36.37	13.17	2.56	14.89
<b>140</b>	144.73	135.75	119.12	104.51	78.21	54.91	32.80	10.95	2.37	10.52
<b>145</b>	112.65	120.99	94.55	84.07	67.65	47.42	24.67	7.02	2.83	10.05
<b>150</b>	102.53	92.59	83.10	73.04	61.35	35.59	23.03	6.78	0.83	7.87
<b>155</b>	80.33	77.76	67.93	53.22	42.27	30.60	14.65	7.32	2.04	4.88
<b>160</b>	53.88	55.96	56.73	42.83	29.84	18.74	10.83	4.48	0.78	4.59
<b>165</b>	33.03	42.66	34.21	22.15	18.49	9.48	9.27	6.53	0.96	1.65
<b>170</b>	20.99	18.57	13.31	10.65	10.89	7.36	5.85	2.21	1.04	0.68
<b>175</b>	6.32	6.94	8.89	5.15	1.97	4.31	2.31	1.98	0.00	1.06
<b>180</b>	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58

**Vert.  
Angles**

**Horizontal Angles**

	<u><b>200</b></u>	<u><b>210</b></u>	<u><b>220</b></u>	<u><b>230</b></u>	<u><b>240</b></u>	<u><b>250</b></u>	<u><b>260</b></u>	<u><b>270</b></u>	<u><b>280</b></u>	<u><b>290</b></u>
<b>0</b>	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55	679.55
<b>5</b>	630.11	707.34	689.59	704.74	690.22	674.68	697.80	669.86	668.30	646.33
<b>10</b>	689.98	651.93	678.16	685.29	695.64	669.18	679.79	663.51	639.48	684.25
<b>15</b>	677.56	640.92	649.22	656.31	668.53	694.42	685.25	728.63	718.01	688.43
<b>20</b>	609.62	629.81	626.95	667.04	681.54	681.71	658.93	681.99	689.27	663.19
<b>25</b>	591.51	605.62	650.09	636.04	641.57	670.27	676.69	656.60	688.01	639.14
<b>30</b>	570.96	581.36	586.28	607.41	645.77	652.00	637.47	662.09	615.28	661.17
<b>35</b>	531.05	549.29	590.41	599.86	609.24	648.79	648.76	656.99	626.89	631.82
<b>40</b>	495.29	525.08	548.81	576.93	581.59	606.32	609.15	603.93	600.42	598.20
<b>45</b>	449.18	478.91	507.01	530.96	545.19	553.26	566.46	586.76	574.35	581.81
<b>50</b>	413.30	438.18	473.68	507.56	517.40	548.63	561.18	555.70	534.49	544.66
<b>55</b>	357.13	389.89	424.76	453.98	478.13	507.29	526.54	526.41	519.17	516.91
<b>60</b>	307.08	341.16	394.06	426.33	458.23	473.39	492.69	499.40	498.50	485.74
<b>65</b>	257.88	305.17	335.30	377.11	431.32	449.76	459.88	461.08	450.30	441.82
<b>70</b>	216.23	265.10	296.56	333.91	381.04	401.74	411.02	422.45	408.78	404.26
<b>75</b>	161.30	207.05	251.61	283.77	329.98	353.39	382.17	387.74	375.85	352.05
<b>80</b>	120.20	165.07	211.00	261.73	288.92	327.32	343.27	364.64	341.36	315.10
<b>85</b>	88.19	134.18	172.24	221.94	260.43	289.03	305.97	317.03	303.08	283.96
<b>90</b>	65.61	117.78	162.05	207.75	244.28	275.45	293.85	304.93	291.68	285.23
<b>95</b>	68.90	115.63	154.90	202.20	227.63	269.09	288.38	296.50	283.98	270.52
<b>100</b>	63.50	109.44	148.51	195.16	230.68	261.35	270.86	284.11	282.59	269.84
<b>105</b>	60.98	110.03	147.46	188.34	224.61	241.01	279.22	282.20	261.16	246.26
<b>110</b>	59.21	99.41	145.08	187.95	211.02	231.99	259.94	262.41	259.53	243.16
<b>115</b>	53.24	95.68	132.72	164.93	194.38	220.07	242.70	246.29	235.24	216.05
<b>120</b>	48.02	89.83	121.16	154.48	182.09	210.98	219.43	235.94	221.13	210.66
<b>125</b>	47.88	79.90	118.96	148.48	179.63	196.47	210.11	202.35	196.68	194.15
<b>130</b>	39.96	79.60	105.13	135.84	159.10	167.00	178.33	193.70	191.51	177.16
<b>135</b>	38.45	67.24	96.71	120.53	133.80	150.88	172.82	176.78	163.79	159.03

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**CANDELA TABULATION - (Cont.)**

<b>140</b>	33.54	54.44	83.11	109.94	122.11	125.76	147.46	145.50	139.64	138.70
<b>145</b>	26.00	49.52	75.81	91.16	105.42	107.22	128.10	129.89	122.49	115.41
<b>150</b>	20.13	39.05	55.91	71.71	80.43	89.21	97.12	100.09	89.52	96.21
<b>155</b>	17.12	30.10	45.40	53.98	67.92	77.53	81.73	79.36	79.81	74.27
<b>160</b>	12.63	22.78	28.50	37.78	48.36	55.59	59.09	62.32	58.76	57.43
<b>165</b>	8.16	15.39	17.16	32.43	30.53	35.51	41.30	37.39	35.60	39.44
<b>170</b>	4.40	6.02	7.60	11.66	19.86	24.60	16.28	31.10	17.34	16.08
<b>175</b>	1.62	0.00	3.22	6.13	3.43	10.91	7.09	6.43	10.28	13.67
<b>180</b>	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58

**Vert.  
Angles**

**Horizontal Angles**

	<b><u>300</u></b>	<b><u>310</u></b>	<b><u>320</u></b>	<b><u>330</u></b>	<b><u>340</u></b>	<b><u>350</u></b>	<b><u>360</u></b>
<b>0</b>	679.55	679.55	679.55	679.55	679.55	679.55	679.55
<b>5</b>	663.81	688.55	703.03	696.45	730.02	725.81	670.76
<b>10</b>	684.77	690.40	638.99	670.26	693.26	645.30	668.73
<b>15</b>	692.16	683.51	652.83	669.58	646.57	626.77	620.09
<b>20</b>	661.29	664.05	671.29	661.77	625.84	629.35	606.60
<b>25</b>	666.47	627.48	625.24	612.64	577.56	612.40	580.13
<b>30</b>	630.65	623.03	597.24	576.31	565.72	554.71	546.70
<b>35</b>	618.44	597.86	573.54	555.59	536.24	500.73	512.45
<b>40</b>	574.76	574.63	541.15	507.85	495.01	462.16	471.95
<b>45</b>	560.92	548.84	512.37	487.34	444.88	422.59	416.70
<b>50</b>	536.16	491.60	461.96	437.24	400.08	377.13	368.64
<b>55</b>	508.69	462.02	425.75	398.00	354.67	333.49	308.23
<b>60</b>	452.64	422.48	388.90	348.20	323.18	280.48	263.37
<b>65</b>	416.03	384.07	349.06	305.67	262.41	232.94	206.86
<b>70</b>	377.87	346.61	295.18	259.25	214.69	175.75	156.67
<b>75</b>	336.24	290.15	257.62	214.16	165.69	127.97	107.33
<b>80</b>	282.80	259.85	205.44	163.87	122.17	81.68	61.19
<b>85</b>	256.58	225.65	182.35	133.96	81.58	40.67	21.93
<b>90</b>	246.37	202.46	160.85	116.22	68.49	27.63	6.31
<b>95</b>	229.31	201.21	153.09	109.98	68.37	22.90	2.82
<b>100</b>	236.12	190.79	148.65	111.39	63.49	22.19	3.60
<b>105</b>	227.33	190.48	146.20	109.57	59.80	23.54	3.58
<b>110</b>	220.61	178.44	141.85	96.13	63.88	23.14	3.23
<b>115</b>	204.23	164.07	139.33	96.66	57.44	19.90	3.95
<b>120</b>	181.69	159.01	124.34	95.11	51.66	18.28	2.60
<b>125</b>	177.49	137.79	114.02	82.29	45.33	14.90	2.64
<b>130</b>	158.91	126.36	102.21	72.73	45.61	15.85	1.75
<b>135</b>	136.39	107.60	93.80	64.66	40.12	13.57	2.43
<b>140</b>	126.66	95.44	78.83	58.19	32.66	10.57	1.91
<b>145</b>	110.71	83.55	68.76	46.86	21.99	8.63	1.97
<b>150</b>	87.23	74.87	51.84	40.66	19.60	5.99	2.51
<b>155</b>	68.37	54.38	43.63	28.67	18.47	4.25	1.24
<b>160</b>	49.33	44.88	28.69	18.28	10.27	4.79	1.02
<b>165</b>	33.03	24.34	22.83	13.58	9.00	2.43	1.28
<b>170</b>	24.72	18.61	11.52	8.54	5.83	2.36	0.00
<b>175</b>	12.12	2.07	1.30	6.06	4.59	0.76	0.00
<b>180</b>	0.58	0.58	0.58	0.58	0.58	0.58	0.58

**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	252.74	4.40	7.70
0-30	542.57	9.40	16.60
0-40	904.95	15.60	27.70
0-60	1689.64	29.10	51.70
0-80	2316.72	39.90	70.90
0-90	2526.3	43.60	77.30
10-90	2461.79	42.40	75.30
20-40	652.21	11.20	19.90
20-50	1047.57	18.10	32.00
40-70	1133.05	19.50	34.70
60-80	627.08	10.80	19.20
70-80	278.72	4.80	8.50
80-90	209.58	3.60	6.40
90-110	347.66	6.00	10.60
90-120	486.66	8.40	14.90
90-130	594.58	10.30	18.20
90-150	714.44	12.30	21.80
90-180	743.57	12.80	22.70
110-180	395.91	6.80	12.10
0-180	3269.87	56.40	100.00

Total Luminaire Efficiency = 56.40%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	64.51
10-20	188.23
20-30	289.83
30-40	362.38
40-50	395.36
50-60	389.33
60-70	348.36
70-80	278.72
80-90	209.58
90-100	181.92
100-110	165.74
110-120	138.99
120-130	107.92
130-140	74.75
140-150	45.11
150-160	21.72
160-170	6.74
170-180	0.68

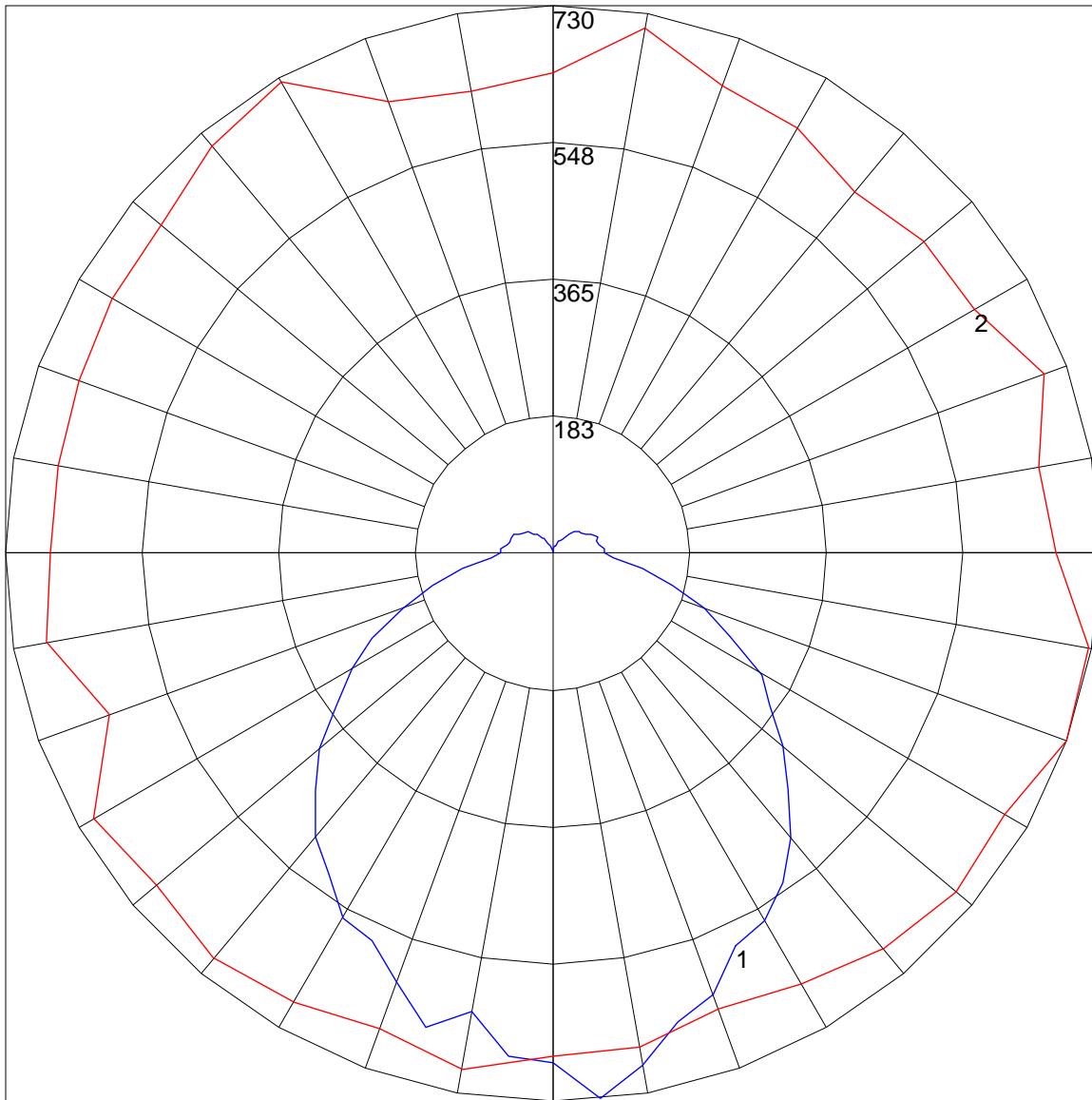
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : IPR8MS\_FROSTEDLENS.IES**

**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	64	64	64	64	61	61	61	61	56	56	56	50	50	50	46	46	46	44
1	57	54	51	48	54	51	49	46	46	44	42	42	40	39	38	37	36	33
2	51	46	42	38	49	44	40	37	40	37	34	36	33	31	32	30	29	27
3	46	40	35	31	44	38	34	30	35	31	28	31	28	26	28	26	24	22
4	42	35	30	26	40	34	29	25	30	27	23	28	24	22	25	22	20	18
5	39	31	26	22	37	30	25	21	27	23	20	25	21	19	22	20	17	16
6	36	28	23	19	34	27	22	18	24	20	17	22	19	16	20	17	15	14
7	33	25	20	17	31	24	19	16	22	18	15	20	17	14	18	15	13	12
8	31	23	18	15	29	22	17	14	20	16	13	18	15	13	17	14	12	11
9	29	21	16	13	27	20	16	13	18	15	12	17	14	11	16	13	11	9
10	27	19	15	12	25	18	14	11	17	13	11	16	12	10	14	12	10	8

POLAR GRAPH



Maximum Candela = 730.02 Located At Horizontal Angle = 340, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (340 - 160) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)