



IES INDOOR REPORT
PHOTOMETRIC FILENAME : IPR5S_FROSTEDLENS.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TESTLAB]
 [ISSUE DATE] Thu May 17 2012
 [TEST] IPR5S_FrostedLens
 [TEST DATE] Thu May 17 08:37:08 2012
 [MANUFAC] BARTCO LIGHTING
 [LUMINAIRE] IPR5S_FrostedLens
 [LAMP] Fluor. 35W 5' Silhouette T5
 [LAMPCAT] F35T5/830
 [OTHER] OPTIONS:

CHARACTERISTICS

Lumens Per Lamp	3650 (1 lamp)
Total Lamp Lumens	3650
Luminaire Lumens	3156
Total Luminaire Efficiency	86 %
Luminaire Efficacy Rating (LER)	83
Total Luminaire Watts	38
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.82
Spacing Criterion (Diagonal)	1.70
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.85 ft
Luminous Width (90-270)	0.13 ft
Luminous Height	0.26 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6875	4132	4361
55	6006	3963	4141
65	4561	3632	3853
75	2387	3465	3636
85	1291	3357	3395

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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	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32
5	395.50	458.48	454.31	442.35	432.81	399.08	442.54	446.09	430.17	425.41
10	418.19	427.87	452.50	449.16	421.07	416.93	458.91	436.82	427.84	479.11
15	442.32	431.44	424.04	420.90	412.43	441.16	470.48	465.04	458.26	464.19
20	423.09	428.24	426.69	440.63	466.74	453.96	460.21	458.51	468.39	473.49
25	426.05	407.29	404.25	429.04	448.83	456.27	473.95	488.93	478.30	486.52
30	378.90	392.81	406.53	411.11	424.84	455.83	474.43	494.66	502.83	502.57
35	364.12	378.77	379.27	405.38	416.90	448.00	482.93	496.77	508.33	514.62
40	328.44	338.24	350.98	395.62	420.84	462.87	469.57	505.20	510.03	530.23
45	291.98	295.45	328.32	351.98	380.18	444.05	473.99	501.24	531.72	532.94
50	245.67	262.72	285.12	329.37	382.68	429.55	487.26	510.22	526.17	544.51
55	211.33	213.30	254.68	304.97	373.41	431.38	482.11	494.30	515.78	528.25
60	161.49	177.18	218.49	269.73	350.17	418.00	460.34	494.50	520.55	526.47
65	122.43	129.45	186.23	247.88	325.77	402.31	449.41	476.53	491.88	497.16
70	76.21	87.98	154.17	237.60	312.72	390.30	436.92	464.65	472.17	484.04
75	42.20	64.57	126.46	216.61	294.10	370.45	407.80	434.98	460.38	460.40
80	23.32	44.33	99.81	190.91	286.78	346.73	399.73	420.59	422.20	419.41
85	10.30	29.10	91.63	178.41	265.71	329.53	371.21	396.63	410.17	408.47
90	3.90	25.39	85.38	167.46	248.47	311.08	354.25	384.32	395.05	406.51
95	2.78	22.60	80.80	159.11	242.67	300.35	344.08	371.41	391.99	389.14
100	3.50	22.27	75.10	142.33	227.11	288.62	334.18	372.03	380.84	390.60
105	2.79	18.45	64.55	135.86	215.37	282.07	315.58	353.77	372.90	369.00
110	3.81	16.83	60.23	114.92	192.43	261.21	305.87	328.77	360.04	366.40
115	2.68	13.87	53.03	106.06	175.16	229.02	276.32	301.86	325.14	328.59
120	3.09	10.59	44.09	92.54	147.37	201.50	248.81	277.89	288.00	302.32
125	2.32	10.59	37.92	78.27	117.52	176.75	214.47	245.56	257.58	261.54
130	2.64	9.34	32.58	60.22	97.83	152.53	171.60	200.27	215.64	227.52
135	1.40	6.44	23.34	50.18	84.61	111.97	143.01	164.46	186.91	177.20
140	1.60	7.07	18.97	42.88	61.09	83.59	108.30	132.04	133.37	141.74
145	1.93	6.85	14.24	33.96	46.23	67.74	83.04	102.65	111.54	112.51
150	1.53	3.85	13.07	23.37	39.45	45.57	56.93	75.27	76.01	72.95
155	0.86	3.17	9.20	16.58	24.17	39.49	43.65	56.87	56.87	61.28
160	0.75	2.41	4.64	8.99	13.73	22.00	29.40	37.45	35.65	34.45
165	1.86	1.98	4.53	6.03	9.94	10.37	15.40	18.79	24.62	19.56
170	0.94	1.47	1.48	3.30	4.83	7.35	10.99	6.32	12.88	13.87
175	0.00	0.95	0.00	4.42	2.02	5.01	3.04	4.90	2.03	2.10
180	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

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	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32
5	435.20	447.96	421.04	493.15	460.52	436.18	434.74	461.30	461.78	411.29
10	468.20	453.71	426.17	443.03	455.50	427.50	424.06	436.25	431.94	422.11
15	470.64	455.61	457.91	458.00	447.87	452.62	437.95	439.90	424.55	430.37
20	471.06	470.20	466.74	459.58	420.28	444.68	430.42	434.83	441.33	416.71
25	488.27	458.26	491.21	449.46	427.56	429.35	414.94	414.55	414.40	419.85
30	483.55	494.16	472.24	476.71	445.84	410.72	411.56	384.71	385.48	387.59
35	489.54	490.87	464.19	435.18	419.11	391.52	364.25	366.51	366.49	360.80
40	518.31	488.26	475.03	440.26	418.85	387.35	341.43	339.74	332.01	336.76
45	534.14	505.06	490.73	433.89	400.39	359.02	319.22	303.80	288.31	286.53
50	536.21	511.05	475.74	441.20	389.26	334.00	295.21	260.60	252.09	260.33
55	515.24	505.01	476.63	426.56	372.73	311.77	243.43	216.76	201.33	216.53
60	506.34	486.91	466.16	416.84	347.68	279.83	212.35	175.06	158.69	173.45

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65	496.36	478.49	441.34	410.64	339.40	256.86	184.91	137.48	122.75	142.52
70	481.27	465.87	435.94	390.50	317.54	230.45	153.31	100.83	81.75	96.58
75	459.55	441.76	415.31	361.69	293.90	216.03	129.22	62.93	45.99	61.29
80	432.91	418.32	386.29	349.75	279.57	193.14	104.82	42.55	20.98	45.28
85	421.25	402.38	378.59	332.59	261.33	179.57	87.67	29.22	10.74	31.36
90	401.53	387.22	367.52	317.35	247.05	161.08	85.15	23.25	3.74	24.91
95	388.39	369.00	346.28	305.45	240.85	159.99	81.20	22.60	3.27	22.86
100	367.57	369.49	333.88	302.12	227.17	147.98	74.09	22.27	2.87	24.06
105	369.84	344.68	327.79	277.68	209.86	132.90	63.82	19.56	2.77	18.10
110	344.62	336.12	298.69	256.63	185.47	120.72	60.35	16.21	2.86	16.42
115	328.73	308.36	276.51	230.72	162.06	107.33	49.10	15.37	2.68	12.61
120	298.21	282.44	243.95	203.57	148.45	100.58	41.86	14.04	2.50	11.55
125	256.26	241.64	208.90	170.58	127.07	79.17	37.80	11.15	2.26	11.05
130	216.31	203.95	165.76	138.38	101.76	63.40	31.33	10.54	1.97	9.71
135	186.68	160.56	136.84	119.40	81.26	49.43	20.24	8.68	2.25	6.68
140	147.45	119.94	112.65	91.53	59.40	38.88	21.50	6.59	2.44	5.50
145	105.79	99.01	78.34	63.65	46.18	28.71	16.09	4.52	2.33	5.66
150	72.33	70.81	65.59	45.38	36.42	21.55	12.32	4.81	1.68	3.39
155	56.75	47.41	36.88	35.09	21.01	19.35	8.73	3.48	1.17	2.44
160	38.34	27.16	25.19	23.15	18.67	14.31	6.26	1.44	0.50	5.53
165	23.38	13.79	16.67	13.74	9.80	7.94	4.64	2.47	1.06	0.99
170	13.65	9.51	7.70	5.02	5.89	1.52	3.32	2.11	1.87	2.21
175	3.52	2.86	1.97	1.06	2.16	0.00	1.94	0.00	0.00	0.00
180	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

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	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32	433.32
5	449.43	467.97	454.62	398.55	443.65	458.09	439.26	464.95	450.15	438.74
10	423.61	407.42	436.64	456.06	424.14	483.23	445.12	486.07	448.74	448.92
15	440.67	449.02	458.28	464.88	461.83	451.92	445.19	461.93	457.27	474.23
20	434.80	407.57	441.08	459.65	480.82	469.70	482.61	483.14	491.21	462.91
25	418.28	418.49	448.57	458.72	458.64	481.17	492.03	492.31	473.80	463.70
30	402.67	417.39	423.74	447.59	479.95	488.35	492.08	487.04	496.29	479.73
35	369.37	391.64	422.68	437.29	463.69	509.16	495.11	515.47	500.63	503.65
40	349.57	387.98	413.91	452.40	487.53	507.86	518.21	524.98	516.55	491.33
45	326.10	366.64	402.21	446.14	486.31	505.54	537.23	529.09	521.73	514.38
50	288.43	337.01	390.89	436.21	472.22	501.90	524.24	536.61	533.05	512.46
55	259.16	314.50	377.51	427.36	465.96	500.50	522.39	530.61	510.85	500.07
60	219.46	275.35	344.11	412.09	466.56	499.71	514.60	507.79	500.62	506.49
65	186.47	254.16	338.36	400.53	459.41	482.11	490.70	491.69	496.20	476.66
70	145.83	228.04	312.92	385.13	436.64	462.87	477.73	482.75	477.20	458.18
75	120.43	211.70	295.66	364.37	415.67	428.81	445.70	460.78	454.16	439.77
80	103.53	189.49	277.02	355.03	390.54	412.83	423.62	435.28	423.95	415.72
85	93.26	179.51	253.67	324.86	378.64	405.98	415.47	416.62	421.83	398.24
90	77.08	161.25	249.85	319.70	358.68	375.07	404.28	414.74	402.20	377.14
95	82.32	156.77	236.16	302.06	352.92	371.43	380.99	388.34	382.93	392.03
100	77.30	148.45	231.84	297.45	343.69	373.48	382.08	386.82	374.74	362.50
105	65.37	135.94	208.24	274.34	317.68	366.79	369.19	371.97	367.72	351.28
110	59.44	124.44	188.35	250.34	306.81	338.47	355.85	360.63	355.96	337.68
115	52.12	103.49	170.41	235.50	277.77	315.79	322.00	313.58	325.61	311.86
120	51.72	93.88	143.56	202.73	244.38	282.70	293.78	301.99	292.99	275.19
125	39.14	76.77	122.26	162.55	211.12	247.62	253.94	264.60	252.60	241.58
130	27.16	62.54	99.04	135.66	168.89	207.64	218.63	218.80	209.78	201.86
135	24.76	47.97	80.35	111.33	145.48	171.88	188.26	187.52	180.88	162.55

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140	16.34	40.57	61.22	90.23	112.04	127.49	144.52	149.77	137.35	129.35
145	13.26	29.58	47.35	66.78	88.02	85.64	109.98	113.65	109.10	92.40
150	11.42	21.31	37.18	49.85	61.97	74.38	77.08	76.95	71.03	77.60
155	8.42	14.77	24.03	32.55	46.03	46.85	54.62	62.53	54.66	56.90
160	5.45	9.53	17.81	24.19	30.02	28.06	30.65	36.29	35.81	34.43
165	3.57	5.73	5.84	12.31	14.36	23.06	17.57	22.63	24.07	17.22
170	2.25	1.88	3.13	10.19	9.76	10.56	11.96	11.27	8.02	12.84
175	1.81	1.92	2.34	6.65	3.95	2.57	2.45	3.98	1.81	9.29
180	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

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	433.32	433.32	433.32	433.32	433.32	433.32	433.32
5	421.48	457.42	461.73	450.59	436.31	453.34	395.50
10	455.87	432.94	440.45	464.21	416.02	428.09	418.19
15	460.41	452.42	468.49	470.14	428.49	411.78	442.32
20	450.99	460.32	461.80	431.34	447.78	417.37	423.09
25	484.93	445.25	442.68	426.95	410.54	406.37	426.05
30	474.32	443.69	435.24	419.97	404.25	381.14	378.90
35	472.32	452.78	425.08	402.97	377.56	365.25	364.12
40	476.63	440.05	408.55	390.28	349.18	347.73	328.44
45	481.83	440.81	404.35	355.33	321.65	299.97	291.98
50	471.93	441.00	377.36	322.62	293.18	257.41	245.67
55	477.59	431.88	366.24	309.01	260.25	218.18	211.33
60	467.33	419.07	350.22	287.17	209.39	171.48	161.49
65	455.20	397.38	329.00	253.44	185.83	137.36	122.43
70	434.82	377.55	319.06	235.08	143.72	93.00	76.21
75	413.64	368.01	291.20	209.04	123.10	64.70	42.20
80	390.67	346.54	284.91	185.58	109.48	41.87	23.32
85	376.35	323.16	258.53	177.97	92.56	33.06	10.30
90	362.89	331.40	247.76	168.73	91.13	26.95	3.90
95	346.78	300.01	243.51	162.99	82.16	23.37	2.78
100	343.50	300.01	230.16	150.77	72.26	20.40	3.50
105	321.09	273.35	205.61	140.50	69.09	18.48	2.79
110	303.71	254.20	179.34	121.18	59.78	18.09	3.81
115	268.44	233.13	167.02	106.98	50.72	15.18	2.68
120	238.81	209.45	144.47	91.32	45.80	13.01	3.09
125	222.80	163.77	123.82	75.58	38.62	10.94	2.32
130	171.63	136.70	99.46	63.58	32.04	10.35	2.64
135	140.83	111.52	81.52	48.78	22.40	7.44	1.40
140	103.79	88.19	64.92	39.84	18.33	7.17	1.60
145	81.92	70.97	45.93	32.81	11.66	6.00	1.93
150	62.27	49.52	33.78	23.25	10.48	5.01	1.53
155	41.79	36.55	24.77	13.72	6.67	3.53	0.86
160	25.73	19.42	12.96	6.61	7.04	2.21	0.75
165	19.72	12.74	7.45	8.03	5.01	0.73	1.86
170	5.25	6.45	9.54	2.73	1.77	3.01	0.94
175	3.20	4.80	2.00	1.75	0.00	0.00	0.00
180	0.89	0.89	0.89	0.89	0.89	0.89	0.89

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	169.05	4.60	5.40
0-30	376.19	10.30	11.90
0-40	649.66	17.80	20.60
0-60	1313.69	36.00	41.60
0-80	1957.31	53.60	62.00
0-90	2236.36	61.30	70.80
10-90	2194.28	60.10	69.50
20-40	480.62	13.20	15.20
20-50	802.49	22.00	25.40
40-70	999.23	27.40	31.70
60-80	643.62	17.60	20.40
70-80	308.41	8.40	9.80
80-90	279.06	7.60	8.80
90-110	484.30	13.30	15.30
90-120	665.79	18.20	21.10
90-130	791.83	21.70	25.10
90-150	902.15	24.70	28.60
90-180	920.12	25.20	29.20
110-180	435.82	11.90	13.80
0-180	3156.48	86.50	100.00

Total Luminaire Efficiency = 86.50%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	42.08
10-20	126.97
20-30	207.14
30-40	273.47
40-50	321.87
50-60	342.15
60-70	335.20
70-80	308.41
80-90	279.06
90-100	256.66
100-110	227.64
110-120	181.49
120-130	126.04
130-140	74.11
140-150	36.20
150-160	14.09
160-170	3.53
170-180	0.35

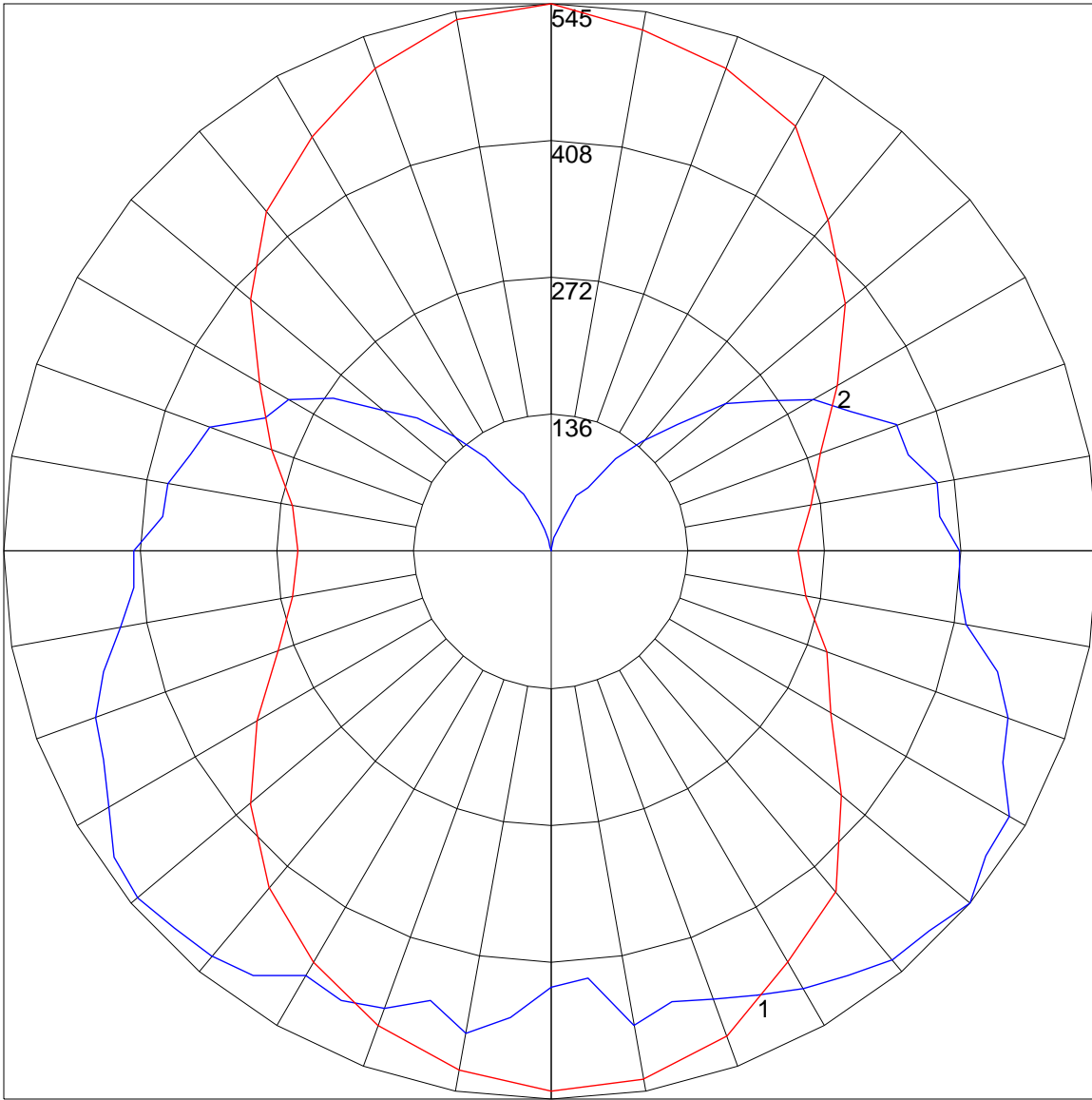
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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
0	97	97	97	97	92	92	92	92	82	82	82	73	73	73	65	65	65	61
1	85	80	75	70	80	75	71	67	67	63	60	59	56	54	52	50	48	44
2	76	67	60	55	71	64	57	52	56	51	47	50	46	42	44	40	38	34
3	68	58	50	44	64	55	48	42	49	43	38	43	38	34	37	34	30	27
4	62	51	43	36	58	48	40	35	43	36	31	38	32	28	33	29	25	22
5	57	45	37	30	53	42	35	29	38	31	27	33	28	24	29	25	21	19
6	52	40	32	26	49	38	30	25	34	27	23	30	25	21	26	22	18	16
7	48	36	28	23	45	34	27	22	30	24	20	27	22	18	24	19	16	14
8	45	33	25	20	42	31	24	19	28	22	17	25	20	16	22	17	14	12
9	42	30	22	18	39	28	21	17	25	19	15	23	18	14	20	16	13	11
10	39	27	20	16	36	26	19	15	23	18	14	21	16	13	19	14	11	10

POLAR GRAPH



Maximum Candela = 544.51 Located At Horizontal Angle = 90, Vertical Angle = 50
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)