



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SEALED BEAM 12-24V_6W.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995

[MANUFAC] BeLuce Canada Inc.

[LAMP] Sealed Beam Lamp 12-24V 6W

[MORE] LUMEN RATING = 699.2 LMS

[OTHER] Hopoo HPG1600 SYSTEM

CHARACTERISTICS

Lumens Per Lamp	699.2 (1 lamp)
Total Lamp Lumens	699.2
Luminaire Lumens	699
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.08 m (Diameter)
Luminous Width (90-270)	0.08 m (Diameter)
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	38250	38247	39352
55	35259	33079	34209
65	32176	28228	24007
75	29066	23234	17595
85	29547	28692	14123

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CANDELA TABULATION

	<u>0</u>	<u>30</u>	<u>60</u>	<u>90</u>	<u>120</u>	<u>150</u>	<u>180</u>	<u>210</u>	<u>240</u>	<u>270</u>
0.0	244.859	244.859	244.859	244.859	244.859	244.859	244.859	244.859	244.859	244.859
2.5	245.850	244.960	246.150	246.470	246.360	246.550	250.820	246.060	243.770	241.710
5.0	244.090	243.040	243.710	244.850	248.660	251.660	252.280	247.630	246.980	242.770
7.5	244.390	238.760	238.200	242.550	248.040	253.910	254.450	251.390	249.340	241.090
10.0	244.140	237.190	237.790	244.680	249.280	252.880	252.150	254.550	250.880	242.090
12.5	238.950	235.060	238.280	244.360	253.470	248.060	247.980	253.280	251.120	241.580
15.0	230.520	230.950	233.330	237.840	251.850	243.500	245.790	251.120	248.060	239.870
17.5	222.130	226.680	226.380	232.540	242.280	240.850	244.550	249.690	246.060	238.840
20.0	214.620	219.050	223.950	231.900	234.570	241.330	242.470	248.690	243.280	232.840
22.5	209.530	208.670	220.210	229.350	233.140	240.140	238.440	246.280	238.090	225.000
25.0	203.530	199.470	215.620	222.050	232.250	234.330	230.810	241.390	230.460	219.970
27.5	196.530	191.960	208.070	213.320	230.410	228.160	226.680	236.760	224.700	213.530
30.0	189.740	185.310	198.910	207.960	226.540	221.110	223.700	228.350	218.510	203.800
32.5	182.090	176.030	189.770	198.200	216.240	215.080	216.750	221.700	212.430	197.310
35.0	173.680	169.320	179.220	185.820	206.400	207.860	208.070	214.510	206.040	189.630
37.5	162.540	163.670	168.730	173.600	199.470	197.720	199.180	206.260	197.990	181.630
40.0	152.020	155.990	159.400	163.590	189.740	186.930	192.280	198.740	187.140	173.460
42.5	143.850	146.660	149.750	150.780	178.840	177.950	180.790	192.610	177.650	162.860
45.0	136.010	134.200	137.800	139.930	169.540	169.160	169.140	182.470	166.270	148.990
47.5	128.660	122.710	127.490	130.280	156.830	159.670	159.640	173.140	154.320	136.690
50.0	120.680	113.140	118.620	118.060	147.070	151.720	151.830	160.640	143.580	125.900
52.5	111.190	104.540	108.430	106.650	136.150	144.720	143.690	148.150	132.550	113.780
55.0	101.700	95.100	95.720	98.670	124.360	135.980	133.140	135.980	120.300	102.400
57.5	93.480	86.100	84.880	85.800	114.490	125.060	122.460	126.790	109.320	92.230
60.0	85.580	78.550	76.360	73.680	105.000	114.190	110.890	117.650	98.700	81.010
62.5	78.250	70.490	65.870	60.950	94.180	103.860	99.890	108.270	90.530	73.010
65.0	68.380	63.250	56.730	51.020	84.930	94.940	91.670	99.510	80.010	61.760
67.5	59.760	55.270	48.510	43.260	77.090	85.990	81.440	89.150	69.680	50.920
70.0	52.480	46.700	41.560	36.040	67.710	76.390	72.010	80.010	59.700	42.260
72.5	45.290	39.400	33.830	29.100	60.080	69.680	63.080	71.170	51.190	35.210
75.0	37.830	32.930	27.550	22.900	52.460	63.300	55.030	62.650	42.890	28.820
77.5	31.120	27.070	22.310	17.870	43.260	55.110	46.290	55.110	35.100	22.690
80.0	25.010	21.310	18.280	13.300	34.690	44.720	36.860	47.290	28.280	17.140
82.5	18.900	16.740	15.060	9.520	27.930	36.400	28.660	39.420	23.230	12.280
85.0	12.950	13.090	12.060	6.190	22.520	30.580	20.010	33.390	18.550	8.790
87.5	8.410	9.950	9.730	3.870	19.060	25.280	12.790	28.340	15.200	5.890
90.0	5.190	7.840	7.920	2.870	15.740	20.960	8.820	23.630	12.220	4.540
92.5	4.520	6.330	6.490	2.510	12.680	16.680	7.460	19.330	9.790	3.970
95.0	4.080	5.410	5.680	2.380	10.440	13.520	6.300	15.790	7.810	3.600
97.5	4.110	4.840	5.190	2.330	8.650	10.760	5.250	12.760	6.250	3.460
100.0	4.160	4.460	4.870	2.430	7.300	8.630	4.410	10.410	5.140	3.350
102.5	4.460	4.300	4.600	2.600	6.270	7.140	3.890	8.710	4.380	3.330
105.0	4.700	4.300	4.430	2.700	5.650	5.950	3.410	7.270	3.920	3.300
107.5	4.490	4.410	4.410	2.490	5.270	5.140	2.870	6.300	3.600	3.110
110.0	4.380	4.430	4.410	2.810	5.000	4.540	2.950	5.330	3.380	3.240
112.5	4.600	4.540	4.490	3.080	4.870	4.190	3.000	5.080	3.220	3.460
115.0	4.790	4.700	4.680	3.350	4.870	4.000	3.190	4.950	3.160	3.700
117.5	4.950	4.890	4.920	3.680	4.950	4.030	3.520	4.760	3.270	3.970
120.0	5.160	5.140	4.920	3.920	5.060	4.160	3.950	4.730	3.490	4.190
122.5	5.410	5.440	5.080	4.190	5.190	4.380	4.220	4.840	3.700	4.330
125.0	5.710	5.840	5.520	4.410	5.250	4.570	4.410	4.980	3.890	4.620
127.5	6.000	6.140	5.950	4.730	5.300	4.730	4.600	5.080	4.140	4.980
130.0	6.350	6.440	6.380	5.160	5.460	4.840	4.730	5.300	4.520	5.300
132.5	6.680	6.650	6.600	5.570	5.730	5.110	4.840	5.600	4.700	5.650

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135.0	6.950	6.350	6.520	5.950	5.980	5.110	5.030	5.730	4.920	6.000
137.5	7.190	6.190	6.330	6.250	6.170	5.250	5.250	5.810	5.220	6.270
140.0	7.350	6.000	6.030	6.540	6.250	5.410	5.380	5.810	5.410	6.490
142.5	7.440	5.870	5.760	6.870	6.060	5.410	5.760	5.810	5.270	6.710
145.0	7.440	5.650	5.650	7.060	6.030	5.330	5.600	5.870	5.220	6.900
147.5	7.350	5.650	5.650	7.170	6.030	5.300	5.790	5.790	5.220	6.950
150.0	7.110	5.600	5.650	7.190	6.080	5.330	5.650	5.680	5.270	6.980
152.5	6.730	5.440	5.570	7.060	6.060	5.350	5.980	5.710	5.380	6.870
155.0	6.350	5.220	5.490	6.810	6.140	5.380	5.890	5.730	5.460	6.760
157.5	5.920	5.080	5.410	6.270	6.330	5.520	5.520	5.840	5.570	6.380
160.0	5.330	4.950	5.270	5.440	6.680	5.810	4.650	5.920	5.680	5.680
162.5	4.540	4.700	5.140	3.890	6.810	6.000	3.680	5.920	5.600	4.600
165.0	3.790	4.220	4.680	3.060	6.330	5.520	3.140	5.570	5.060	3.350
167.5	3.600	3.330	3.810	3.140	4.840	4.380	3.220	4.250	3.570	3.380
170.0	3.620	3.190	3.490	3.190	3.380	3.060	3.300	3.380	2.970	3.430
172.5	3.650	3.220	3.490	3.240	3.430	3.110	3.410	3.460	3.080	3.490
175.0	3.680	3.220	3.490	3.330	3.460	3.140	3.540	3.520	3.190	3.570
177.5	3.700	3.300	3.540	3.410	3.520	3.240	3.620	3.540	3.270	3.600
180.0	3.522	3.522	3.522	3.522	3.522	3.522	3.522	3.522	3.522	3.522

Vert. Angles	Horizontal Angles		
	<u>300</u>	<u>330</u>	<u>360</u>
0.0	244.859	244.859	244.859
2.5	239.010	238.410	245.850
5.0	237.410	236.060	244.090
7.5	237.470	236.440	244.390
10.0	239.330	234.900	244.140
12.5	238.300	233.060	238.950
15.0	233.920	226.140	230.520
17.5	228.240	217.540	222.130
20.0	222.460	209.590	214.620
22.5	216.700	202.310	209.530
25.0	208.860	198.340	203.530
27.5	201.420	192.800	196.530
30.0	191.520	187.470	189.740
32.5	179.140	180.280	182.090
35.0	169.460	171.110	173.680
37.5	162.700	160.350	162.540
40.0	154.830	151.370	152.020
42.5	146.530	143.720	143.850
45.0	137.660	133.960	136.010
47.5	128.520	126.380	128.660
50.0	118.410	118.810	120.680
52.5	109.110	109.270	111.190
55.0	98.860	100.210	101.700
57.5	89.180	92.610	93.480
60.0	78.120	85.770	85.580
62.5	68.950	77.690	78.250
65.0	60.700	68.740	68.380
67.5	51.890	59.760	59.760
70.0	43.890	50.920	52.480
72.5	36.670	43.260	45.290
75.0	30.010	36.530	37.830
77.5	24.550	30.880	31.120
80.0	20.010	25.930	25.010

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82.5	16.310	20.420	18.900
85.0	12.870	16.200	12.950
87.5	10.140	12.930	8.410
90.0	7.980	10.380	5.190
92.5	6.440	8.570	4.520
95.0	5.270	7.330	4.080
97.5	4.570	6.330	4.110
100.0	4.140	5.730	4.160
102.5	3.870	5.300	4.460
105.0	3.700	5.080	4.700
107.5	3.520	5.060	4.490
110.0	3.460	5.080	4.380
112.5	3.490	5.160	4.600
115.0	3.680	5.300	4.790
117.5	3.890	5.460	4.950
120.0	4.220	5.600	5.160
122.5	4.430	6.000	5.410
125.0	4.570	6.350	5.710
127.5	4.790	6.620	6.000
130.0	5.220	6.810	6.350
132.5	5.570	7.030	6.680
135.0	5.730	6.730	6.950
137.5	5.650	6.650	7.190
140.0	5.460	6.440	7.350
142.5	5.250	6.250	7.440
145.0	5.270	6.000	7.440
147.5	5.250	5.870	7.350
150.0	5.220	5.840	7.110
152.5	5.270	5.810	6.730
155.0	5.190	5.680	6.350
157.5	5.140	5.460	5.920
160.0	4.980	5.250	5.330
162.5	4.810	5.140	4.540
165.0	4.430	4.840	3.790
167.5	3.570	4.030	3.600
170.0	3.080	3.410	3.620
172.5	3.140	3.410	3.650
175.0	3.220	3.460	3.680
177.5	3.300	3.520	3.700
180.0	3.522	3.522	3.522

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	90.84	13.00	13.00
0-30	192.09	27.50	27.50
0-40	310.95	44.50	44.50
0-60	528.65	75.60	75.60
0-80	645.10	92.30	92.30
0-90	664.72	95.10	95.10
10-90	641.35	91.70	91.70
20-40	220.10	31.50	31.50
20-50	337.59	48.30	48.30
40-70	290.55	41.60	41.60
60-80	116.46	16.70	16.70
70-80	43.61	6.20	6.20
80-90	19.62	2.80	2.80
90-110	13.14	1.90	1.90
90-120	17.35	2.50	2.50
90-130	21.84	3.10	3.10
90-150	30.18	4.30	4.30
90-180	34.48	4.90	4.90
110-180	21.33	3.10	3.10
0-180	699.20	100.00	100.00

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	23.37
10-20	67.47
20-30	101.25
30-40	118.85
40-50	117.49
50-60	100.21
60-70	72.85
70-80	43.61
80-90	19.62
90-100	8.27
100-110	4.87
110-120	4.21
120-130	4.49
130-140	4.55
140-150	3.78
150-160	2.69
160-170	1.29
170-180	0.32

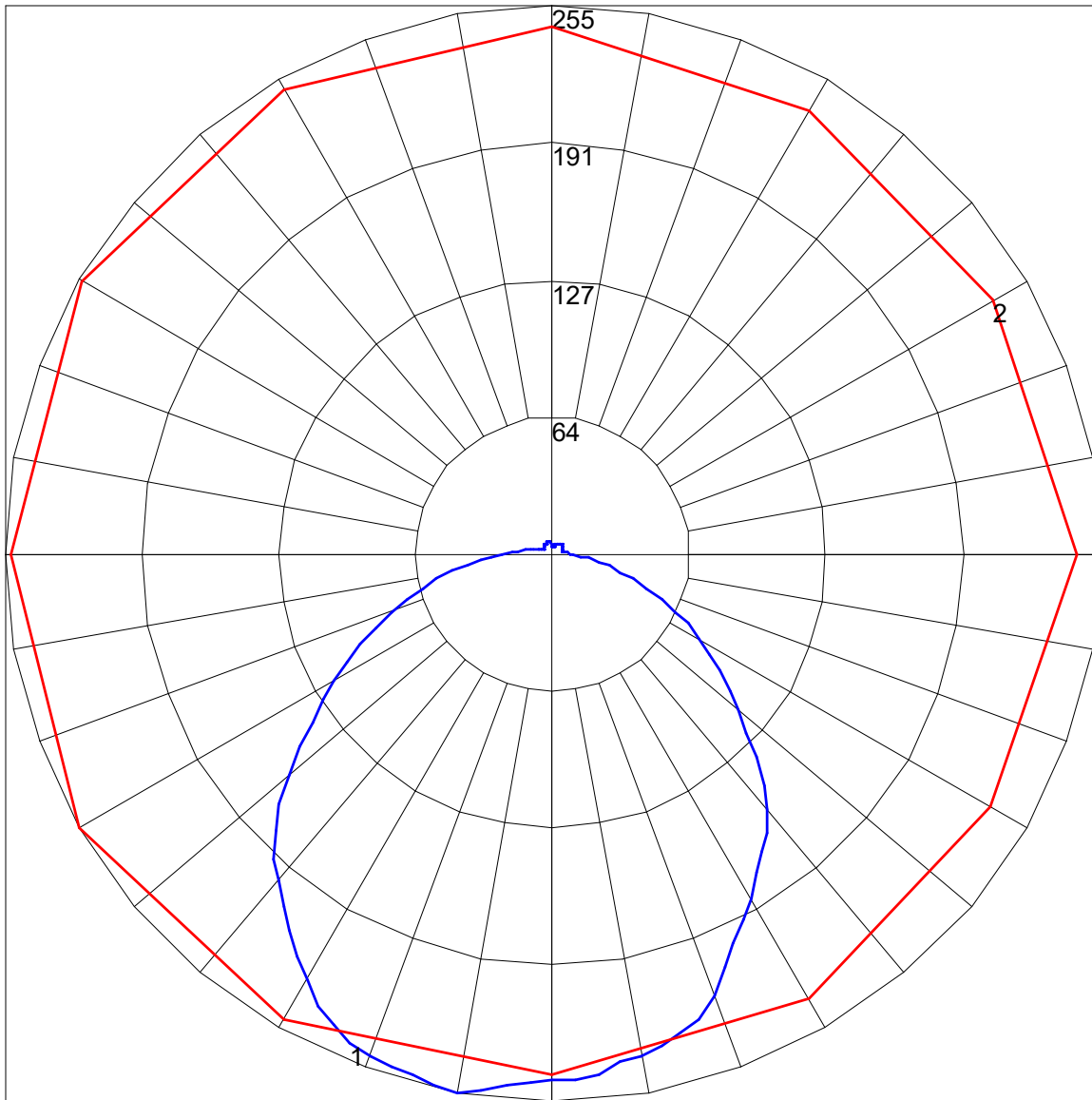
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	108	108	108	103	103	103	98	98	98	95
1	107	103	98	94	104	100	96	92	95	92	89	90	87	85	86	84	82	79
2	98	90	83	77	95	87	81	76	83	78	73	79	75	71	75	72	69	66
3	89	79	71	65	87	77	70	64	73	67	62	70	65	60	67	62	59	56
4	82	70	62	55	79	69	60	54	65	58	53	63	57	52	60	55	51	48
5	76	63	54	47	73	61	53	47	59	52	46	56	50	45	54	49	44	42
6	70	57	48	42	68	55	47	41	53	46	40	51	45	40	49	43	39	37
7	65	51	43	37	63	50	42	36	48	41	36	47	40	35	45	39	35	33
8	60	47	39	33	58	46	38	33	44	37	32	43	36	32	41	35	31	29
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26
10	53	40	32	27	51	39	32	27	38	31	26	37	30	26	35	30	26	24

POLAR GRAPH



Maximum Candela = 254.55 Located At Horizontal Angle = 210, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (210 - 30) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)