



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MR16LED\_12V\_7W.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995

[ISSUE DATE] 9/19/2019

[MANUFAC] BeLuce Canada Inc.

[LAMP] MR16LED Lamp 12V 7W

[MORE] BeLuce REMOTE HEAD CAT

[MORE] LUMEN RATING = 647.41 LMS

[OTHER] EVERFINE GO-2000A\_V1 SYSTEM

[OTHER]	Gamma(deg)	Fz(lm)	Ft(lm)	%Lum	%Lamp
[OTHER]	0- 10	95.55	95.55	14.76	14.76
[OTHER]	10- 20	180.69	276.24	42.67	42.67
[OTHER]	20- 30	147.04	423.28	65.38	65.38
[OTHER]	30- 40	95.55	518.83	80.14	80.14
[OTHER]	40- 50	54.25	573.07	88.52	88.52
[OTHER]	50- 60	32.10	605.18	93.48	93.48
[OTHER]	60- 70	22.00	627.18	96.88	96.88
[OTHER]	70- 80	12.44	639.62	98.80	98.80
[OTHER]	80- 90	3.44	643.06	99.33	99.33
[OTHER]	90-100	0.07	643.12	99.34	99.34
[OTHER]	100-110	0.00	643.12	99.34	99.34
[OTHER]	110-120	0.05	643.18	99.35	99.35
[OTHER]	120-130	0.30	643.48	99.39	99.39
[OTHER]	130-140	0.68	644.16	99.50	99.50
[OTHER]	140-150	1.04	645.20	99.66	99.66
[OTHER]	150-160	1.10	646.30	99.83	99.83
[OTHER]	160-170	0.81	647.11	99.95	99.95
[OTHER]	170-180	0.29	647.41	100.00	100.00
[OTHER]					

### CHARACTERISTICS

Lumens Per Lamp	647.41 (1 lamp)
Total Lamp Lumens	647.41
Luminaire Lumens	648
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	101
Total Luminaire Watts	6.4161
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.66
Spacing Criterion (90-270)	0.62
Spacing Criterion (Diagonal)	0.62
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.16 m
Luminous Width (90-270)	0.21 m
Luminous Height	0.00 m

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**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3818	3653	3262
55	2296	2169	1989
65	1815	1791	1742
75	1560	1684	1668
85	1369	1681	1636

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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	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344
5	1102.262	1104.663	1091.177	1101.017	1058.069	1016.652	985.481	984.759	990.045	1010.378
10	973.990	971.155	948.431	956.927	881.997	816.493	777.319	773.209	786.221	804.766
15	761.758	758.468	728.956	721.843	643.978	582.060	543.084	537.986	549.456	574.305
20	562.706	554.515	526.169	513.197	449.056	397.067	370.421	364.483	373.395	389.885
25	396.139	392.206	368.534	352.844	306.685	266.246	248.442	243.335	250.181	264.379
30	282.123	282.943	263.875	249.411	212.983	177.030	159.868	158.742	168.148	181.328
35	199.042	199.141	185.596	173.651	142.321	119.192	102.505	108.285	113.077	124.063
40	135.554	135.563	124.913	115.537	93.672	79.722	70.118	73.033	77.212	83.792
45	90.748	90.827	82.824	77.528	64.279	56.217	48.056	51.366	52.739	55.476
50	61.819	61.286	56.830	53.520	45.893	40.696	35.114	36.922	36.714	38.502
55	44.272	43.057	40.567	38.344	34.284	31.942	27.348	28.326	27.723	29.166
60	32.970	32.189	31.122	30.164	27.200	25.866	21.736	22.309	22.428	23.752
65	25.787	25.757	25.125	24.740	21.924	20.629	17.191	17.359	18.318	19.967
70	19.760	21.005	20.165	20.205	16.934	15.354	12.449	12.814	14.306	15.541
75	13.575	14.939	14.366	14.514	11.411	10.107	7.736	8.062	9.317	10.325
80	8.240	8.991	8.783	8.704	6.837	5.355	3.843	3.754	4.545	5.276
85	4.011	5.098	4.752	4.792	2.915	1.769	1.275	1.186	1.433	1.640
90	1.294	1.867	1.818	1.630	0.049	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000
115	0.000	0.000	0.020	0.000	0.000	0.089	0.049	0.138	0.049	0.059
120	0.109	0.040	0.138	0.109	0.079	0.227	0.198	0.277	0.178	0.207
125	0.257	0.178	0.287	0.237	0.237	0.405	0.405	0.474	0.356	0.435
130	0.474	0.395	0.494	0.445	0.454	0.652	0.652	0.731	0.622	0.701
135	0.761	0.662	0.800	0.701	0.751	0.968	0.988	1.067	0.939	1.067
140	1.126	1.028	1.156	1.028	1.116	1.344	1.373	1.442	1.304	1.492
145	1.541	1.442	1.581	1.413	1.492	1.739	1.759	1.828	1.699	1.897
150	1.956	1.857	1.996	1.798	1.877	2.124	2.124	2.203	2.055	2.292
155	2.332	2.243	2.361	2.193	2.233	2.440	2.430	2.510	2.351	2.608
160	2.648	2.539	2.658	2.500	2.510	2.707	2.668	2.747	2.608	2.845
165	2.875	2.776	2.865	2.766	2.747	2.905	2.845	2.915	2.776	2.994
170	3.043	2.954	3.023	2.944	2.924	3.033	2.964	3.023	2.885	3.083
175	3.112	3.033	3.092	3.092	3.033	3.132	3.033	3.063	2.954	3.112
180	3.132	3.132	3.132	3.132	3.132	3.132	3.132	3.132	3.132	3.132

**Vert. Angles**      **Horizontal Angles**

	<u>300</u>	<u>330</u>	<u>360</u>
0	1106.344	1106.344	1106.344
5	1043.091	1077.226	1102.262
10	864.283	927.100	973.990
15	641.538	710.747	761.758
20	447.791	511.596	562.706
25	308.839	360.590	396.139
30	217.370	255.378	282.123
35	150.551	178.413	199.042
40	98.721	120.655	135.554
45	65.386	79.771	90.748
50	45.023	53.965	61.819
55	32.821	38.858	44.272
60	25.945	29.966	32.970

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	21.459	24.374	25.787
<b>70</b>	16.934	19.187	19.760
<b>75</b>	11.540	13.051	13.575
<b>80</b>	6.462	7.973	8.240
<b>85</b>	2.371	3.468	4.011
<b>90</b>	0.000	0.948	1.294
<b>95</b>	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000
<b>115</b>	0.079	0.000	0.000
<b>120</b>	0.207	0.069	0.109
<b>125</b>	0.395	0.237	0.257
<b>130</b>	0.642	0.464	0.474
<b>135</b>	0.988	0.771	0.761
<b>140</b>	1.383	1.136	1.126
<b>145</b>	1.808	1.541	1.541
<b>150</b>	2.223	1.986	1.956
<b>155</b>	2.559	2.342	2.332
<b>160</b>	2.816	2.638	2.648
<b>165</b>	3.013	2.845	2.875
<b>170</b>	3.132	3.004	3.043
<b>175</b>	3.152	3.092	3.112
<b>180</b>	3.132	3.132	3.132

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	275.35	42.50	42.50
0-30	423.07	65.30	65.30
0-40	518.90	80.20	80.10
0-60	605.50	93.50	93.50
0-80	639.62	98.80	98.80
0-90	643.15	99.30	99.30
10-90	548.70	84.80	84.70
20-40	243.55	37.60	37.60
20-50	298.04	46.00	46.00
40-70	108.38	16.70	16.70
60-80	34.12	5.30	5.30
70-80	12.34	1.90	1.90
80-90	3.53	0.50	0.50
90-110	0.17	0.00	0.00
90-120	0.23	0.00	0.00
90-130	0.53	0.10	0.10
90-150	2.24	0.30	0.30
90-180	4.42	0.70	0.70
110-180	4.25	0.70	0.70
0-180	647.57	100.00	100.00

Total Luminaire Efficiency = 100.00%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	94.45
10-20	180.90
20-30	147.72
30-40	95.83
40-50	54.49
50-60	32.11
60-70	21.78
70-80	12.34
80-90	3.53
90-100	0.17
100-110	0.00
110-120	0.06
120-130	0.30
130-140	0.68
140-150	1.02
150-160	1.09
160-170	0.80
170-180	0.29

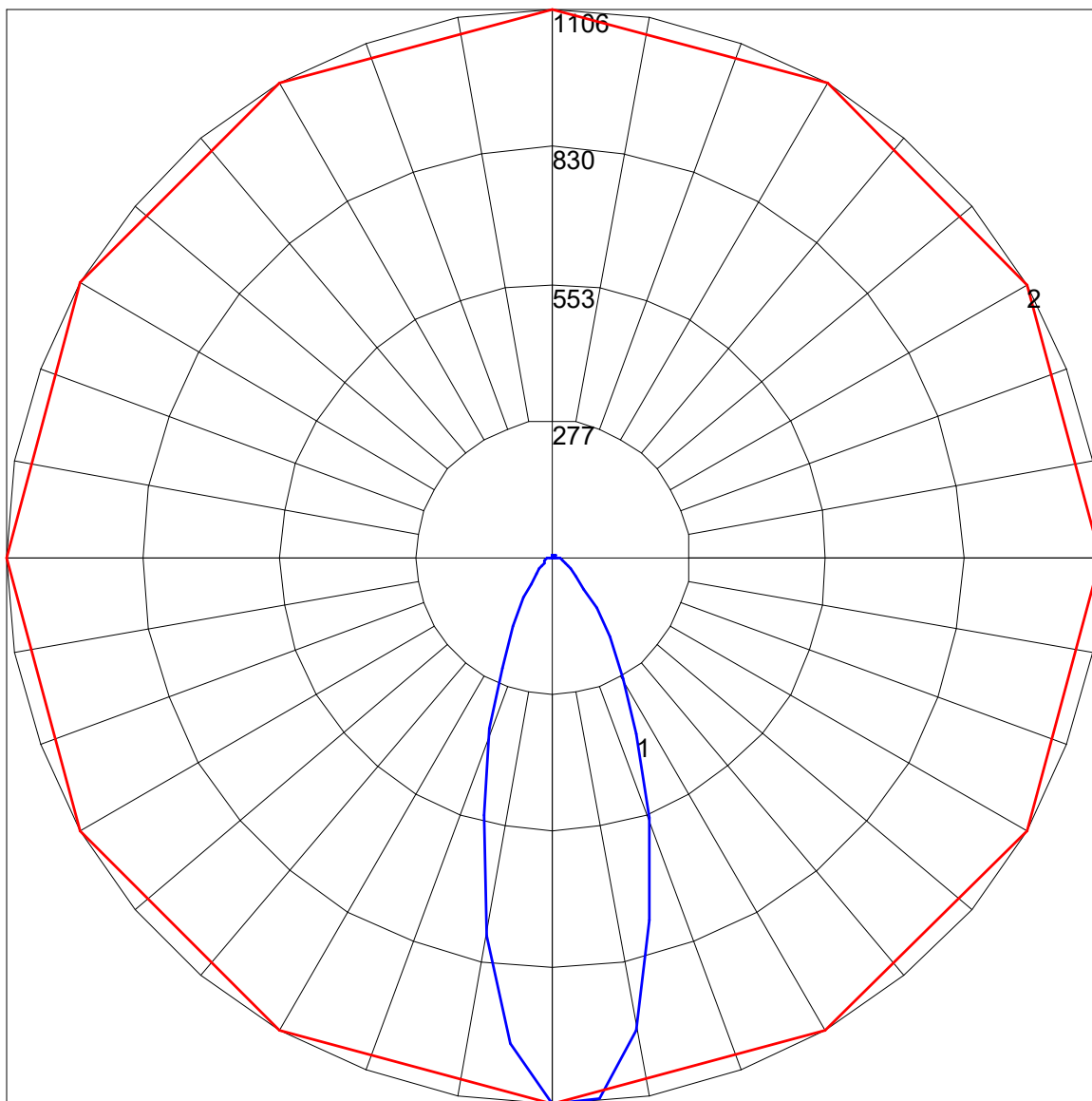
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	111	111	111	106	106	106	101	101	101	99
1	112	109	106	104	110	107	105	102	103	101	99	99	97	96	95	94	93	91
2	106	101	96	92	104	99	95	91	95	92	89	92	90	87	89	87	85	83
3	100	93	88	83	98	92	87	83	89	85	81	86	83	80	84	81	78	77
4	95	87	81	76	93	86	80	76	83	78	75	81	77	74	79	76	73	71
5	90	81	75	70	88	80	74	70	78	73	69	76	72	68	75	71	68	66
6	85	76	70	65	84	75	69	65	74	68	64	72	67	64	71	67	63	62
7	81	72	65	61	80	71	65	61	70	64	60	68	64	60	67	63	60	58
8	78	68	62	57	76	67	61	57	66	61	57	65	60	57	64	59	56	55
9	74	64	58	54	73	64	58	54	63	57	54	62	57	53	61	56	53	52
10	71	61	55	51	70	61	55	51	60	54	51	59	54	51	58	54	51	49

POLAR GRAPH



Maximum Candela = 1106.344 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.)