



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MR16LED\_24V\_7W.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995

[ISSUE DATE] 9/19/2019

[MANUFAC] BeLuce Canada Inc.

[LAMP] MR16LED Lamp 24V 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>
<b>0</b>	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344	1106.344
<b>5</b>	1102.262	1104.663	1091.177	1101.017	1058.069	1016.652	985.481	984.759	990.045	1010.378
<b>10</b>	973.990	971.155	948.431	956.927	881.997	816.493	777.319	773.209	786.221	804.766
<b>15</b>	761.758	758.468	728.956	721.843	643.978	582.060	543.084	537.986	549.456	574.305
<b>20</b>	562.706	554.515	526.169	513.197	449.056	397.067	370.421	364.483	373.395	389.885
<b>25</b>	396.139	392.206	368.534	352.844	306.685	266.246	248.442	243.335	250.181	264.379
<b>30</b>	282.123	282.943	263.875	249.411	212.983	177.030	159.868	158.742	168.148	181.328
<b>35</b>	199.042	199.141	185.596	173.651	142.321	119.192	102.505	108.285	113.077	124.063
<b>40</b>	135.554	135.563	124.913	115.537	93.672	79.722	70.118	73.033	77.212	83.792
<b>45</b>	90.748	90.827	82.824	77.528	64.279	56.217	48.056	51.366	52.739	55.476
<b>50</b>	61.819	61.286	56.830	53.520	45.893	40.696	35.114	36.922	36.714	38.502
<b>55</b>	44.272	43.057	40.567	38.344	34.284	31.942	27.348	28.326	27.723	29.166
<b>60</b>	32.970	32.189	31.122	30.164	27.200	25.866	21.736	22.309	22.428	23.752
<b>65</b>	25.787	25.757	25.125	24.740	21.924	20.629	17.191	17.359	18.318	19.967
<b>70</b>	19.760	21.005	20.165	20.205	16.934	15.354	12.449	12.814	14.306	15.541
<b>75</b>	13.575	14.939	14.366	14.514	11.411	10.107	7.736	8.062	9.317	10.325
<b>80</b>	8.240	8.991	8.783	8.704	6.837	5.355	3.843	3.754	4.545	5.276
<b>85</b>	4.011	5.098	4.752	4.792	2.915	1.769	1.275	1.186	1.433	1.640
<b>90</b>	1.294	1.867	1.818	1.630	0.049	0.000	0.000	0.000	0.000	0.000
<b>95</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000
<b>115</b>	0.000	0.000	0.020	0.000	0.000	0.089	0.049	0.138	0.049	0.059
<b>120</b>	0.109	0.040	0.138	0.109	0.079	0.227	0.198	0.277	0.178	0.207
<b>125</b>	0.257	0.178	0.287	0.237	0.237	0.405	0.405	0.474	0.356	0.435
<b>130</b>	0.474	0.395	0.494	0.445	0.454	0.652	0.652	0.731	0.622	0.701
<b>135</b>	0.761	0.662	0.800	0.701	0.751	0.968	0.988	1.067	0.939	1.067
<b>140</b>	1.126	1.028	1.156	1.028	1.116	1.344	1.373	1.442	1.304	1.492
<b>145</b>	1.541	1.442	1.581	1.413	1.492	1.739	1.759	1.828	1.699	1.897
<b>150</b>	1.956	1.857	1.996	1.798	1.877	2.124	2.124	2.203	2.055	2.292
<b>155</b>	2.332	2.243	2.361	2.193	2.233	2.440	2.430	2.510	2.351	2.608
<b>160</b>	2.648	2.539	2.658	2.500	2.510	2.707	2.668	2.747	2.608	2.845
<b>165</b>	2.875	2.776	2.865	2.766	2.747	2.905	2.845	2.915	2.776	2.994
<b>170</b>	3.043	2.954	3.023	2.944	2.924	3.033	2.964	3.023	2.885	3.083
<b>175</b>	3.112	3.033	3.092	3.092	3.033	3.132	3.033	3.063	2.954	3.112
<b>180</b>	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>
<b>0</b>	1106.344	1106.344	1106.344
<b>5</b>	1043.091	1077.226	1102.262
<b>10</b>	864.283	927.100	973.990
<b>15</b>	641.538	710.747	761.758
<b>20</b>	447.791	511.596	562.706
<b>25</b>	308.839	360.590	396.139
<b>30</b>	217.370	255.378	282.123
<b>35</b>	150.551	178.413	199.042
<b>40</b>	98.721	120.655	135.554
<b>45</b>	65.386	79.771	90.748
<b>50</b>	45.023	53.965	61.819
<b>55</b>	32.821	38.858	44.272
<b>60</b>	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

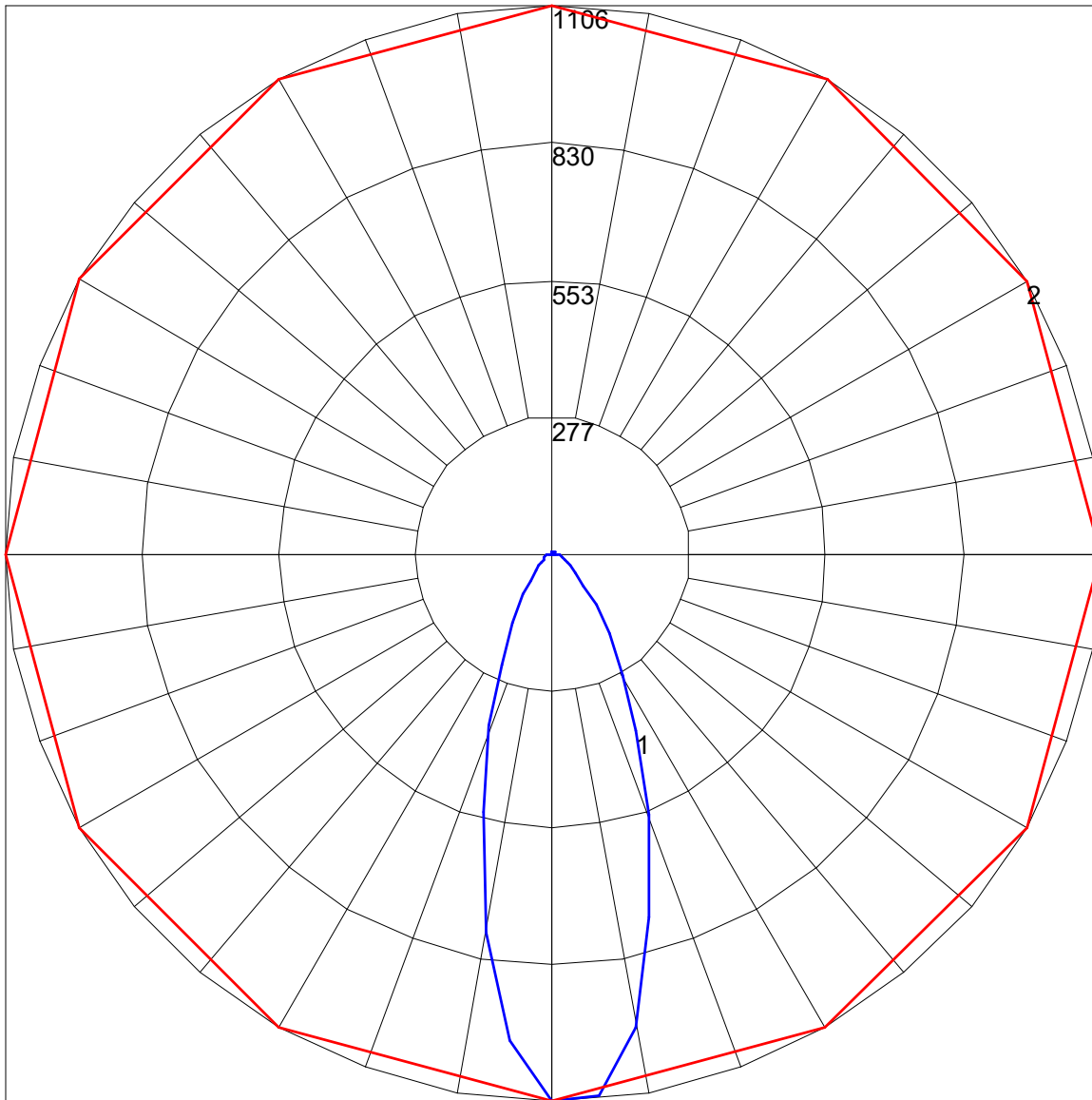
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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.)