



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MR16LED\_24V\_5W.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995

[ISSUEDATE] 3/29/2021

[MANUFAC] BeLuce Canada Inc.

[LAMP] MR16LED Lamp 24V 5W

[MORE] BeLuce REMOTE HEAD CAT

[MORE] LUMEN RATING = 470.75 LMS

[OTHER] EVERFINE GO-2000A\_V1 SYSTEM

[OTHER] Gamma(deg)	Fz(lm)	Ft(lm)	%Lum	%Lamp
[OTHER] 0- 10	86.92	86.92	15.23	15.23
[OTHER] 10- 20	164.30	251.22	44.02	44.02
[OTHER] 20- 30	131.37	382.59	67.03	67.03
[OTHER] 30- 40	81.76	464.35	81.36	81.36
[OTHER] 40- 50	44.66	509.01	89.18	89.18
[OTHER] 50- 60	26.65	535.66	93.85	93.85
[OTHER] 60- 70	17.86	553.52	96.98	96.98
[OTHER] 70- 80	9.39	562.91	98.63	98.63
[OTHER] 80- 90	2.76	565.67	99.11	99.11
[OTHER] 90-100	0.13	565.80	99.13	99.13
[OTHER] 100-110	0.14	565.94	99.16	99.16
[OTHER] 110-120	0.26	566.19	99.20	99.20
[OTHER] 120-130	0.47	566.67	99.29	99.29
[OTHER] 130-140	0.79	567.46	99.42	99.42
[OTHER] 140-150	1.09	568.55	99.61	99.61
[OTHER] 150-160	1.11	569.66	99.81	99.81
[OTHER] 160-170	0.80	570.46	99.95	99.95
[OTHER] 170-180	0.29	570.75	100.00	100.00
[OTHER]				

### CHARACTERISTICS

Lumens Per Lamp	570.75 (1 lamp)
Total Lamp Lumens	570.75
Luminaire Lumens	578
Total Luminaire Efficiency	101 %
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	4.70497
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.58
Spacing Criterion (90-270)	0.50
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	2356	2163	1902
55	1487	1386	1295
65	1161	1141	1109
75	909	878	754
85	768	691	454

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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>	1025.11	1025.11	1025.11	1025.11	1025.11	1025.11	1025.11	1025.11	1025.11	1025.11
<b>5</b>	975.84	940.03	932.38	913.38	916.04	935.37	963.16	1001.67	928.15	1041.88
<b>10</b>	826.29	764.64	774.48	709.78	708.06	738.06	781.33	844.16	758.94	926.16
<b>15</b>	610.99	544.76	574.05	502.10	501.96	537.33	577.59	639.24	563.98	709.70
<b>20</b>	418.87	368.81	393.83	338.20	344.13	369.89	402.23	452.69	396.87	506.89
<b>25</b>	285.28	248.44	269.22	228.77	235.39	251.62	279.75	312.46	275.91	347.20
<b>30</b>	189.95	167.49	183.17	156.73	158.88	171.80	193.25	220.39	192.28	240.28
<b>35</b>	125.23	111.53	123.26	103.47	106.95	114.96	130.11	148.54	128.44	160.63
<b>40</b>	83.66	72.79	81.03	67.34	69.81	75.99	86.37	97.08	84.35	105.57
<b>45</b>	56.01	49.18	53.63	45.22	47.47	51.94	57.75	64.99	56.67	69.42
<b>50</b>	38.98	34.56	36.74	32.59	33.76	37.63	40.50	44.46	39.36	47.54
<b>55</b>	28.67	25.92	27.52	24.96	26.40	28.65	30.11	32.02	29.56	34.46
<b>60</b>	21.89	20.04	21.54	20.35	21.80	22.62	24.16	25.12	23.77	26.49
<b>65</b>	16.49	15.23	17.18	15.76	16.81	17.44	20.12	20.81	19.78	20.99
<b>70</b>	11.92	10.81	12.66	10.93	11.72	12.33	14.95	17.04	14.64	15.96
<b>75</b>	7.91	7.00	8.28	6.56	7.22	7.78	9.77	11.08	9.96	11.07
<b>80</b>	4.72	4.00	4.76	3.46	3.71	4.11	6.12	7.04	5.72	6.77
<b>85</b>	2.25	1.76	2.29	1.33	1.52	1.73	2.46	3.31	2.48	3.63
<b>90</b>	0.08	0.08	0.06	0.07	0.06	0.05	0.09	0.90	0.08	1.50
<b>95</b>	0.10	0.08	0.08	0.09	0.06	0.07	0.08	0.08	0.06	0.06
<b>100</b>	0.13	0.08	0.12	0.12	0.08	0.11	0.08	0.10	0.10	0.12
<b>105</b>	0.18	0.11	0.18	0.18	0.09	0.15	0.08	0.12	0.11	0.11
<b>110</b>	0.24	0.20	0.22	0.24	0.14	0.20	0.11	0.16	0.11	0.11
<b>115</b>	0.31	0.31	0.31	0.31	0.23	0.28	0.20	0.23	0.21	0.20
<b>120</b>	0.44	0.43	0.44	0.44	0.34	0.40	0.29	0.32	0.31	0.31
<b>125</b>	0.61	0.60	0.61	0.62	0.52	0.57	0.44	0.45	0.46	0.44
<b>130</b>	0.84	0.84	0.84	0.86	0.76	0.80	0.64	0.64	0.61	0.61
<b>135</b>	1.14	1.18	1.13	1.14	1.06	1.08	0.91	0.90	0.89	0.88
<b>140</b>	1.50	1.55	1.50	1.52	1.43	1.43	1.26	1.21	1.22	1.23
<b>145</b>	1.89	1.94	1.89	1.87	1.81	1.79	1.60	1.56	1.56	1.61
<b>150</b>	2.27	2.31	2.26	2.22	2.14	2.14	1.96	1.94	1.95	2.04
<b>155</b>	2.58	2.59	2.58	2.51	2.42	2.43	2.29	2.27	2.24	2.37
<b>160</b>	2.81	2.80	2.79	2.75	2.66	2.68	2.52	2.54	2.51	2.66
<b>165</b>	2.97	2.93	2.94	2.90	2.80	2.84	2.70	2.74	2.67	2.85
<b>170</b>	3.06	3.03	3.03	3.00	2.91	2.95	2.83	2.87	2.80	2.99
<b>175</b>	3.07	3.03	3.03	3.07	2.97	3.02	2.91	2.98	2.88	3.06
<b>180</b>	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07

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

	<u>300</u>	<u>330</u>	<u>360</u>
<b>0</b>	1025.11	1025.11	1025.11
<b>5</b>	1037.42	1012.51	975.84
<b>10</b>	923.00	879.54	826.29
<b>15</b>	713.57	676.39	610.99
<b>20</b>	511.08	472.75	418.87
<b>25</b>	345.85	323.87	285.28
<b>30</b>	230.75	216.78	189.95
<b>35</b>	154.92	139.06	125.23
<b>40</b>	100.68	89.39	83.66
<b>45</b>	65.93	59.64	56.01
<b>50</b>	45.07	40.81	38.98
<b>55</b>	32.52	29.50	28.67
<b>60</b>	24.91	22.12	21.89

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	19.03	16.71	16.49
<b>70</b>	14.18	12.40	11.92
<b>75</b>	9.69	8.60	7.91
<b>80</b>	6.15	5.39	4.72
<b>85</b>	3.38	2.82	2.25
<b>90</b>	1.30	0.90	0.08
<b>95</b>	0.09	0.08	0.10
<b>100</b>	0.11	0.09	0.13
<b>105</b>	0.14	0.11	0.18
<b>110</b>	0.18	0.13	0.24
<b>115</b>	0.26	0.21	0.31
<b>120</b>	0.37	0.34	0.44
<b>125</b>	0.51	0.47	0.61
<b>130</b>	0.71	0.69	0.84
<b>135</b>	0.99	0.96	1.14
<b>140</b>	1.33	1.31	1.50
<b>145</b>	1.71	1.69	1.89
<b>150</b>	2.11	2.09	2.27
<b>155</b>	2.47	2.44	2.58
<b>160</b>	2.74	2.69	2.81
<b>165</b>	2.94	2.87	2.97
<b>170</b>	3.06	3.00	3.06
<b>175</b>	3.10	3.04	3.07
<b>180</b>	3.07	3.07	3.07

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	253.38	44.40	43.80
0-30	387.00	67.80	67.00
0-40	470.08	82.40	81.40
0-60	542.49	95.00	93.90
0-80	569.85	99.80	98.60
0-90	572.69	100.30	99.10
10-90	485.59	85.10	84.00
20-40	216.71	38.00	37.50
20-50	262.18	45.90	45.40
40-70	90.29	15.80	15.60
60-80	27.36	4.80	4.70
70-80	9.48	1.70	1.60
80-90	2.84	0.50	0.50
90-110	0.33	0.10	0.10
90-120	0.59	0.10	0.10
90-130	1.07	0.20	0.20
90-150	2.96	0.50	0.50
90-180	5.16	0.90	0.90
110-180	4.83	0.80	0.80
0-180	577.85	101.20	100.00

Total Luminaire Efficiency = 101.20%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	87.10
10-20	166.27
20-30	133.62
30-40	83.09
40-50	45.47
50-60	26.94
60-70	17.88
70-80	9.48
80-90	2.84
90-100	0.19
100-110	0.14
110-120	0.26
120-130	0.48
130-140	0.80
140-150	1.09
150-160	1.11
160-170	0.80
170-180	0.29

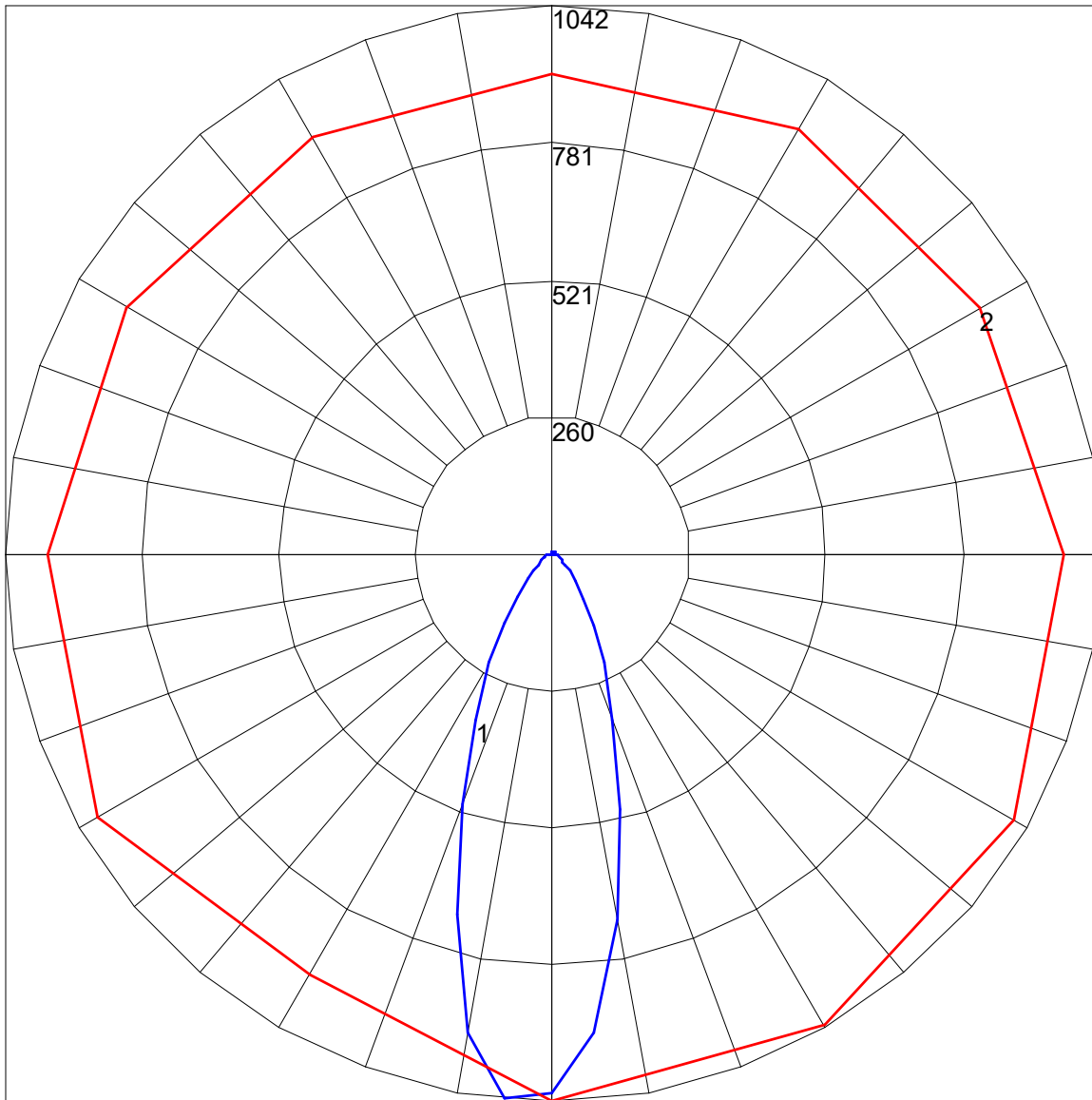
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	120	120	120	120	117	117	117	117	112	112	112	107	107	107	102	102	102	100
1	114	111	108	105	111	109	106	104	104	102	100	100	99	97	97	95	94	92
2	108	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85
3	102	95	89	85	100	93	88	84	91	86	83	88	84	81	86	83	80	78
4	97	88	82	78	95	87	82	77	85	80	76	83	79	75	81	77	74	73
5	92	83	77	72	90	82	76	72	80	75	71	78	74	70	76	72	69	68
6	87	78	71	67	86	77	71	67	75	70	66	74	69	66	72	68	65	64
7	83	73	67	63	82	73	67	62	71	66	62	70	65	62	69	64	61	60
8	79	69	63	59	78	69	63	59	68	62	59	66	62	58	65	61	58	56
9	76	66	60	56	75	65	60	56	64	59	55	63	59	55	62	58	55	53
10	72	63	57	53	71	62	57	53	61	56	53	60	56	52	60	55	52	51

POLAR GRAPH



Maximum Candela = 1041.88 Located At Horizontal Angle = 270, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (270 - 90) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)