



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[ISSUE DATE] 11 March 2019

[TEST LAB] Spectra Lux Industries Inc.

[TEST] S1903111-R1

[LUMCAT] LEME 6-24V 04W BAW-IC

[LUMINAIRE] Lamp MR16 From AW - 12 to 24DC

[LAMP] Clusters of (4) HL-AT-2835D2W-2C-S1-08-PCT-HR3 LEDs c/w Integrated Driver @ 12.00V

[BURNING] Axial (388 Luminaire Lumens)

[REFLECTOR] None

[LENS] Acrylic Diffuser

[HOUSING] Polymeric Molded

[REPORT MODULE] IES LM-35-1989 Floodlight Report

[DISTRIBUTION] NEMA 4Hx4V (Max. CP at 0.0H, -5.0V)

[MANUFAC] BeLuce Canada Inc.

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] Indoor, Emergency

[SEARCH_MOUNTING] Ceiling, Wall

[SEARCH_CERTIFICATION] CSA

Note: Candela values converted from Type-B to Type-C

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	389
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	3.62
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.48
Spacing Criterion (90-270)	0.60
Spacing Criterion (Diagonal)	0.62
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.17 ft (Diameter)
Luminous Width (90-270)	0.17 ft (Diameter)
Luminous Height	0.00 ft

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	11149	12543	17420
55	8590	9449	11167
65	8161	6995	9327
75	5711	7615	9519
85	5653	0	11307

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION

	<u>0.0</u>	<u>2.5</u>	<u>5.0</u>	<u>7.5</u>	<u>10.0</u>	<u>12.5</u>	<u>15.0</u>	<u>17.5</u>	<u>20.0</u>	<u>22.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	702	702	701	701	701	701	701	701	702	702
5.0	646	646	645	645	646	646	647	647	648	650
7.5	583	582	582	581	582	582	583	585	587	586
10.0	508	507	507	507	508	509	511	510	510	511
12.5	431	430	429	430	431	431	431	431	432	433
15.0	357	356	356	356	357	356	355	356	358	359
17.5	287	286	286	286	286	285	285	286	287	290
20.0	222	221	220	221	220	220	221	223	225	228
22.5	166	165	165	166	165	166	167	169	172	172
25.0	123	123	123	123	123	124	125	127	127	128
27.5	92	92	92	92	92	92	94	94	95	95
30.0	69	69	69	69	69	70	71	71	71	71
32.5	52	52	52	51	52	52	53	53	53	53
35.0	39	39	38	38	39	39	39	40	40	40
37.5	30	30	30	30	30	30	30	30	31	31
40.0	24	24	24	24	24	24	24	24	24	25
42.5	20	20	20	19	20	20	20	20	20	20
45.0	16	16	16	16	17	17	17	17	17	17
47.5	14	14	14	14	14	15	14	14	14	14
50.0	13	13	13	12	12	13	13	13	13	13
52.5	11	11	11	11	11	11	11	12	11	11
55.0	10	10	10	10	10	10	10	11	10	10
57.5	9	9	9	9	9	9	9	9	9	9
60.0	8	8	8	8	8	8	8	8	9	8
62.5	8	8	8	8	8	7	7	7	8	8
65.0	7	7	7	7	7	7	7	7	7	7
67.5	6	6	6	6	6	6	6	6	6	6
70.0	6	6	6	6	6	5	5	5	5	6
72.5	5	5	5	5	5	5	5	5	5	5
75.0	3	3	3	3	3	3	3	3	3	3
77.5	1	1	1	0	1	1	1	1	1	1
80.0	1	1	1	0	0	1	1	1	1	1
82.5	1	1	1	1	1	0	1	0	0	0
85.0	1	1	1	1	1	1	0	0	0	0
87.5	1	1	1	1	1	1	1	1	1	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles Horizontal Angles

	<u>25.0</u>	<u>27.5</u>	<u>30.0</u>	<u>32.5</u>	<u>35.0</u>	<u>37.5</u>	<u>40.0</u>	<u>42.5</u>	<u>45.0</u>	<u>47.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	702	703	703	704	705	706	707	707	709	710
5.0	651	652	654	655	655	656	657	659	660	662
7.5	587	588	589	590	592	595	597	601	603	608
10.0	512	514	517	519	521	524	528	531	534	538
12.5	435	437	440	443	446	451	452	455	458	461
15.0	361	364	368	370	372	375	378	383	384	387
17.5	292	294	295	297	300	303	305	308	313	314
20.0	228	230	231	234	236	238	240	242	244	247
22.5	173	175	176	179	181	182	184	186	188	189
25.0	129	129	132	133	134	135	137	139	140	142
27.5	95	95	97	98	98	99	101	103	104	106
30.0	71	71	72	73	73	74	76	77	78	80

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION - (Cont.)

32.5	53	53	54	54	55	56	57	58	59	60
35.0	41	41	42	42	42	43	44	44	45	45
37.5	32	32	33	32	33	33	34	34	34	34
40.0	25	26	26	25	26	26	26	27	27	27
42.5	20	20	21	21	21	21	21	21	22	22
45.0	16	17	17	17	17	17	17	18	18	18
47.5	14	15	15	15	15	15	15	15	15	16
50.0	13	13	13	13	13	13	13	13	13	14
52.5	11	11	11	12	11	12	12	11	11	12
55.0	10	10	10	10	10	11	10	10	11	10
57.5	9	9	10	9	9	9	9	9	9	9
60.0	8	8	8	8	8	8	8	8	9	8
62.5	7	7	7	7	7	7	8	7	8	8
65.0	7	7	6	7	7	7	7	7	6	7
67.5	6	6	6	6	6	6	6	6	6	6
70.0	6	6	5	5	6	5	5	6	5	5
72.5	5	5	5	5	5	5	5	5	5	5
75.0	4	4	4	4	4	4	4	4	4	4
77.5	1	2	2	3	3	3	3	4	4	4
80.0	1	0	1	1	2	2	2	2	3	3
82.5	0	0	0	0	0	1	1	1	1	1
85.0	0	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

	<u>50.0</u>	<u>52.5</u>	<u>55.0</u>	<u>57.5</u>	<u>60.0</u>	<u>62.5</u>	<u>65.0</u>	<u>67.5</u>	<u>70.0</u>	<u>72.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	711	712	713	715	716	718	719	721	722	724
5.0	664	666	668	671	673	675	677	680	682	685
7.5	608	610	613	616	619	623	626	631	637	639
10.0	541	544	547	551	556	558	562	566	571	576
12.5	465	469	472	476	480	485	490	494	499	504
15.0	390	394	397	402	406	410	414	418	424	429
17.5	317	320	323	327	333	335	342	345	349	354
20.0	250	252	256	259	262	266	270	275	279	283
22.5	191	194	197	200	202	204	208	212	216	220
25.0	144	146	147	150	153	155	157	160	163	167
27.5	108	110	112	113	115	117	119	121	124	127
30.0	82	83	84	85	87	89	90	92	95	97
32.5	60	62	64	65	66	68	69	70	72	74
35.0	46	47	48	49	50	51	52	53	54	55
37.5	35	36	36	37	37	38	39	40	41	42
40.0	27	28	28	29	29	30	30	31	32	33
42.5	22	23	23	23	23	24	25	25	25	26
45.0	19	19	19	19	20	20	20	20	21	21
47.5	15	16	16	16	16	17	18	17	18	18
50.0	14	14	14	14	14	14	15	15	15	15
52.5	12	12	12	12	12	13	13	13	13	13
55.0	10	10	10	11	11	11	11	11	11	11
57.5	9	10	10	10	10	10	10	10	10	10
60.0	8	8	8	8	8	8	9	9	9	9
62.5	8	7	8	8	7	8	8	8	8	8
65.0	7	7	7	7	7	7	7	7	7	7
67.5	6	6	6	6	6	6	6	6	6	6

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION - (Cont.)

70.0	5	5	6	6	6	5	5	5	6	6
72.5	5	5	5	5	5	5	5	5	5	5
75.0	4	4	4	4	4	4	4	4	4	4
77.5	4	4	4	4	4	4	4	4	4	4
80.0	3	3	3	3	3	3	3	3	3	3
82.5	2	2	2	2	2	2	2	2	2	2
85.0	0	0	0	1	1	1	2	2	2	2
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

	<u>75.0</u>	<u>77.5</u>	<u>80.0</u>	<u>82.5</u>	<u>85.0</u>	<u>87.5</u>	<u>90.0</u>	<u>92.5</u>	<u>95.0</u>	<u>97.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	726	728	729	731	733	735	737	738	740	741
5.0	688	691	694	697	700	703	707	710	712	715
7.5	642	646	649	653	658	662	667	671	674	678
10.0	581	586	590	595	600	606	612	616	621	626
12.5	509	515	521	526	531	537	544	549	555	562
15.0	434	439	446	451	456	462	469	474	480	487
17.5	359	364	370	376	381	386	393	398	403	410
20.0	288	293	297	303	308	313	320	325	330	336
22.5	224	228	232	237	242	247	253	257	263	268
25.0	170	174	177	181	185	190	195	199	205	209
27.5	129	132	134	137	141	143	147	151	155	159
30.0	99	101	103	105	107	109	111	113	116	120
32.5	75	77	79	81	82	83	85	87	90	92
35.0	57	58	60	61	63	64	66	67	69	72
37.5	43	45	46	47	48	50	52	52	53	55
40.0	34	34	36	37	37	38	39	40	42	43
42.5	27	27	28	29	30	30	31	32	33	34
45.0	22	22	23	23	24	24	25	26	27	27
47.5	18	18	19	19	19	20	21	21	22	23
50.0	16	15	16	16	17	17	17	18	18	19
52.5	14	14	14	14	14	15	15	15	15	16
55.0	12	12	12	12	12	13	13	13	13	14
57.5	10	10	11	10	10	11	11	11	11	12
60.0	9	9	10	9	9	9	10	10	10	10
62.5	8	8	8	8	8	8	9	9	9	9
65.0	7	7	7	7	7	7	8	8	8	8
67.5	6	6	7	6	6	7	7	7	7	7
70.0	6	6	6	6	6	6	5	6	6	7
72.5	5	5	5	5	5	5	5	5	5	6
75.0	4	4	4	5	4	4	5	5	5	5
77.5	4	4	4	4	4	4	4	4	4	5
80.0	3	3	3	3	3	3	3	3	4	4
82.5	2	2	2	2	3	3	3	3	3	3
85.0	2	2	2	2	2	2	2	2	2	3
87.5	1	1	1	1	1	1	1	2	2	2
90.0	0	0	0	0	0	0	1	2	2	2

Vert. Horizontal Angles
Angles

	<u>100.0</u>	<u>102.5</u>	<u>105.0</u>	<u>107.5</u>	<u>110.0</u>	<u>112.5</u>	<u>115.0</u>	<u>117.5</u>	<u>120.0</u>	<u>122.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	743	744	746	747	749	750	751	753	754	756

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION - (Cont.)

5.0	718	721	725	728	731	735	738	742	746	748
7.5	683	687	692	697	701	705	708	712	717	721
10.0	632	638	643	648	653	658	664	670	676	680
12.5	569	575	580	586	592	599	605	610	616	622
15.0	494	500	506	514	521	526	532	539	546	552
17.5	416	422	430	436	442	449	456	462	471	475
20.0	341	347	353	359	365	371	377	383	389	394
22.5	273	278	282	288	293	297	302	307	313	319
25.0	213	218	222	226	229	233	236	241	246	250
27.5	164	167	172	175	178	181	184	188	192	194
30.0	124	128	132	135	137	140	143	146	149	152
32.5	95	98	101	104	106	108	111	114	116	118
35.0	73	75	78	80	81	84	85	87	89	91
37.5	57	58	59	61	62	64	66	66	68	70
40.0	44	45	46	47	49	50	51	52	53	54
42.5	35	36	37	37	38	39	40	41	42	43
45.0	28	29	30	31	31	32	33	33	34	35
47.5	23	24	24	25	26	26	27	27	28	29
50.0	20	20	21	21	21	22	22	23	23	24
52.5	16	17	18	18	18	18	19	19	20	20
55.0	14	15	15	15	15	16	16	16	17	17
57.5	12	13	13	13	13	14	14	14	14	15
60.0	11	11	11	11	11	12	12	12	12	12
62.5	10	10	10	10	10	10	11	11	10	11
65.0	9	8	9	9	9	9	9	10	9	9
67.5	8	7	8	8	8	8	8	8	8	8
70.0	7	6	7	7	7	7	7	7	7	7
72.5	6	6	6	6	6	6	6	6	6	6
75.0	5	5	5	5	5	5	5	5	5	5
77.5	4	4	5	4	4	4	4	4	5	5
80.0	4	4	4	4	4	4	4	4	4	4
82.5	3	3	3	3	3	3	3	3	3	3
85.0	3	3	3	3	3	3	3	3	3	3
87.5	2	2	2	2	2	2	2	2	2	2
90.0	2	2	2	2	2	2	2	2	2	2

Vert. Angles	Horizontal Angles									
	<u>125.0</u>	<u>127.5</u>	<u>130.0</u>	<u>132.5</u>	<u>135.0</u>	<u>137.5</u>	<u>140.0</u>	<u>142.5</u>	<u>145.0</u>	<u>147.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	757	759	760	762	763	764	766	767	768	769
5.0	751	754	756	759	762	765	769	772	775	778
7.5	726	731	736	741	745	750	752	756	759	762
10.0	685	690	695	701	706	712	716	721	725	730
12.5	629	635	639	644	650	656	663	672	674	678
15.0	557	563	570	576	582	591	594	600	607	612
17.5	481	486	492	499	506	511	516	522	528	533
20.0	400	407	411	416	422	428	433	438	443	448
22.5	323	328	332	338	343	347	352	356	361	365
25.0	255	259	263	267	270	274	278	282	286	290
27.5	197	201	204	207	210	213	216	219	224	227
30.0	154	156	158	161	163	165	168	169	172	175
32.5	121	123	124	126	127	128	130	131	132	134
35.0	93	95	96	98	99	100	101	101	102	103
37.5	71	72	74	75	76	77	78	79	79	80
40.0	55	55	56	58	59	60	60	61	61	62

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION - (Cont.)

42.5	43	44	45	45	46	47	47	48	48	48
45.0	35	35	36	36	36	37	37	38	38	38
47.5	28	29	30	30	30	30	30	31	31	31
50.0	24	24	24	25	25	25	25	25	25	25
52.5	20	20	20	21	21	21	21	21	21	22
55.0	17	17	17	17	17	18	18	18	18	18
57.5	15	15	15	15	15	15	15	15	16	16
60.0	13	13	12	13	13	13	13	13	13	13
62.5	11	11	11	11	11	11	11	11	11	11
65.0	9	10	10	10	9	10	10	10	10	10
67.5	8	8	8	8	8	8	8	8	9	8
70.0	7	7	7	7	7	8	7	8	8	7
72.5	6	6	6	6	7	6	6	7	6	6
75.0	5	6	5	6	5	5	5	5	5	6
77.5	4	5	5	4	5	5	4	5	5	5
80.0	4	4	4	4	4	4	4	4	4	4
82.5	3	3	3	3	3	3	3	4	4	4
85.0	3	3	3	3	3	3	3	3	3	3
87.5	2	2	2	2	2	2	2	2	2	2
90.0	2	2	2	2	2	2	2	2	2	2

Vert. Angles	Horizontal Angles									
	<u>150.0</u>	<u>152.5</u>	<u>155.0</u>	<u>157.5</u>	<u>160.0</u>	<u>162.5</u>	<u>165.0</u>	<u>167.5</u>	<u>170.0</u>	<u>172.5</u>
0.0	746	746	746	746	746	746	746	746	746	746
2.5	771	772	773	774	775	776	778	778	779	779
5.0	781	783	784	786	787	789	790	791	793	793
7.5	766	769	773	776	781	782	783	784	786	787
10.0	735	738	741	744	748	751	756	756	756	756
12.5	682	687	692	696	698	700	703	706	707	708
15.0	617	620	624	629	636	636	637	640	644	643
17.5	537	541	545	549	554	559	561	562	564	565
20.0	453	456	460	464	467	472	478	476	476	478
22.5	369	374	377	379	382	384	387	390	388	388
25.0	294	295	300	302	304	306	308	312	311	311
27.5	230	232	234	237	238	240	242	244	245	244
30.0	177	179	181	183	185	185	187	188	190	188
32.5	135	136	137	139	141	142	143	144	145	145
35.0	104	104	105	106	107	108	109	109	110	110
37.5	81	81	81	81	81	82	82	83	83	84
40.0	63	63	62	62	62	63	63	63	64	65
42.5	49	49	49	49	49	49	49	49	49	50
45.0	38	38	38	38	39	38	38	38	39	39
47.5	31	31	31	31	31	31	31	31	31	31
50.0	26	25	25	25	25	25	25	25	25	25
52.5	21	21	21	21	21	21	21	21	21	21
55.0	18	18	18	18	18	18	18	18	18	18
57.5	15	15	15	15	15	15	15	15	15	16
60.0	13	13	13	13	13	13	13	13	13	13
62.5	12	12	12	12	12	11	12	11	11	11
65.0	10	10	10	10	10	10	10	10	10	10
67.5	8	9	9	9	9	9	9	9	9	9
70.0	7	8	8	8	7	7	8	8	8	8
72.5	6	6	7	7	6	6	7	7	7	7
75.0	6	6	6	6	6	6	6	6	6	6
77.5	5	5	5	5	5	5	5	5	5	5

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

CANDELA TABULATION - (Cont.)

80.0	4	4	4	4	4	4	4	4	4	4
82.5	3	3	4	4	4	4	4	4	4	4
85.0	3	3	3	3	3	3	3	3	3	3
87.5	2	2	2	2	2	2	3	3	3	3
90.0	2	2	2	2	2	2	2	2	2	2

Vert. Angles	Horizontal Angles		
	<u>175.0</u>	<u>177.5</u>	<u>180.0</u>
0.0	746	746	746
2.5	780	780	781
5.0	794	795	796
7.5	788	790	791
10.0	758	759	761
12.5	708	710	712
15.0	642	645	647
17.5	563	565	567
20.0	474	477	479
22.5	385	388	390
25.0	308	309	311
27.5	241	243	244
30.0	185	186	187
32.5	142	142	143
35.0	109	108	109
37.5	84	83	83
40.0	65	64	64
42.5	50	49	50
45.0	39	39	39
47.5	31	31	31
50.0	25	25	25
52.5	21	21	21
55.0	18	18	18
57.5	16	15	15
60.0	13	13	13
62.5	12	12	11
65.0	10	10	10
67.5	9	9	9
70.0	8	8	8
72.5	7	7	7
75.0	6	6	6
77.5	5	5	5
80.0	5	5	4
82.5	4	4	4
85.0	3	3	3
87.5	3	3	3
90.0	2	2	2

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	197.37	N.A.	50.80
0-30	293.57	N.A.	75.50
0-40	339.61	N.A.	87.30
0-60	373.70	N.A.	96.10
0-80	386.79	N.A.	99.50
0-90	388.84	N.A.	100.00
10-90	323.71	N.A.	83.30
20-40	142.24	N.A.	36.60
20-50	163.84	N.A.	42.10
40-70	42.25	N.A.	10.90
60-80	13.09	N.A.	3.40
70-80	4.93	N.A.	1.30
80-90	2.05	N.A.	0.50
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	388.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	65.13
10-20	132.24
20-30	96.19
30-40	46.04
40-50	21.60
50-60	12.49
60-70	8.16
70-80	4.93
80-90	2.05
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

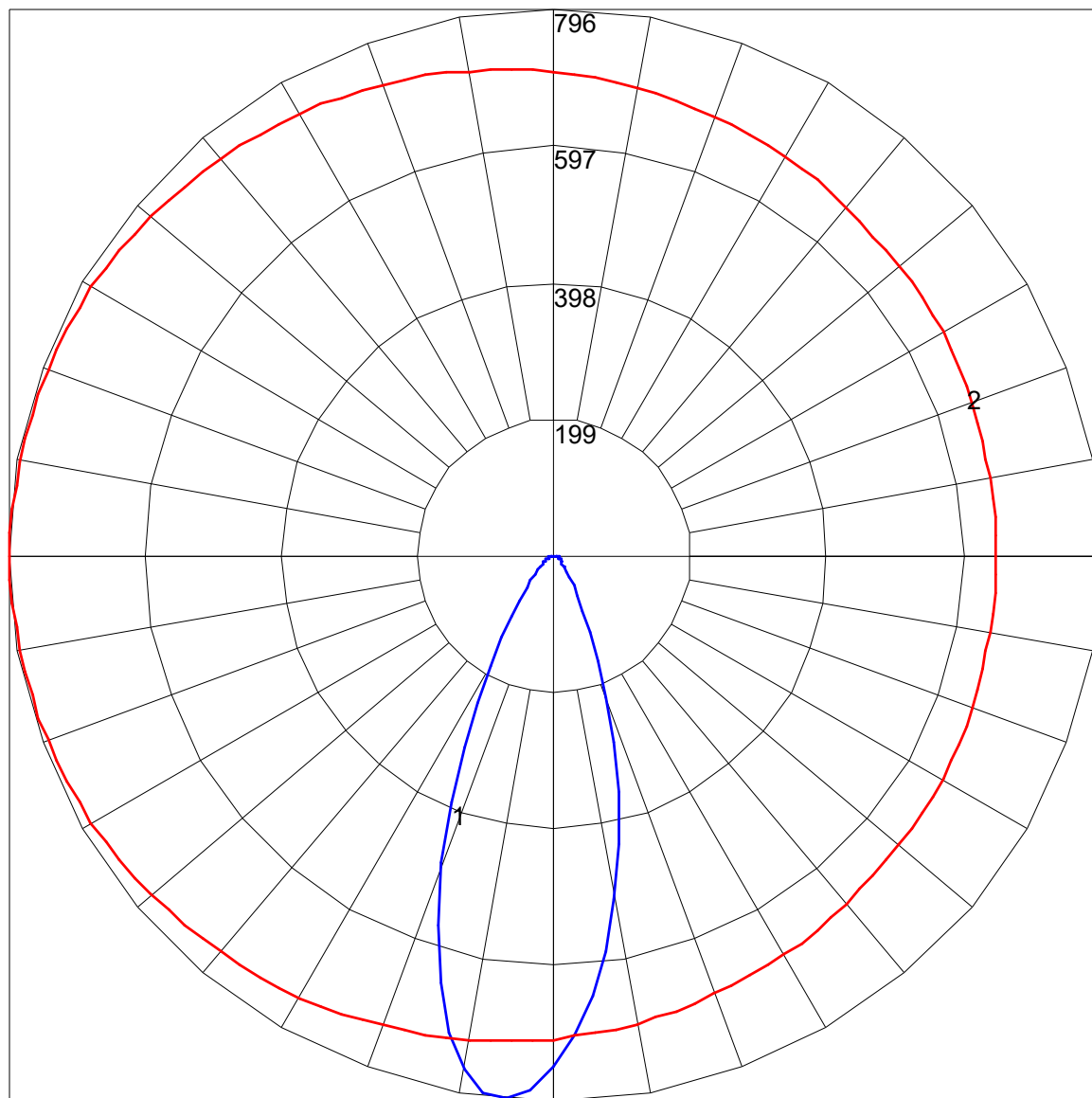
IES INDOOR REPORT
PHOTOMETRIC FILENAME : MR16-6-24V04WLR-LED.IES

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	117	117	117	117	111	111	111	107	107	107	102	102	102	100
1	113	111	108	106	111	108	106	104	104	102	101	101	99	98	97	96	95	93
2	108	103	99	95	106	101	97	94	98	95	92	95	92	90	92	90	88	87
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	87	85	83	81
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76
5	93	85	79	75	92	84	79	75	82	78	74	81	77	74	79	76	73	71
6	89	80	75	71	88	80	74	70	78	73	70	77	73	69	76	72	69	67
7	85	76	71	67	84	76	70	66	74	70	66	73	69	66	72	68	65	64
8	82	73	67	63	80	72	67	63	71	66	63	70	66	62	69	65	62	61
9	78	69	64	60	77	69	63	60	68	63	59	67	62	59	66	62	59	58
10	75	66	61	57	74	66	60	57	65	60	57	64	60	57	63	59	56	55

POLAR GRAPH



Maximum Candela = 796 Located At Horizontal Angle = 180, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)