



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MRRS48-LED20DMVWHFR40.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] MRRS48-LED20DMVWHFR40  
 [TESTDATE] 09-Oct-2020 12:14:28  
 [TESTLAB] Radiant Vision Systems ProSource  
 [ISSUEDATE] 10/9/2020 1:13:12 PM  
 [MANUFAC] Mobern Lighting Co.  
 [LAMP] LED Module  
 [ TOTALLUMINAIRELUMENS] 2625.6  
 [ DRIVER TYPE](1) OSRAM OT30W\_540mA.  
 [ BOARD/LAMP TYPE] (2) Seoul 48 Chip Boards 40k (Y)  
 [ COLOR TEMP] 4079 CCT  
 [ LUMEN/WATT] 129 LPW  
 [ CRI] 85.0  
 [ NUMBEROFRAYS]10000000  
 [OTHER] Absolute Photometry measurement

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2626
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	20.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.36
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	1.22 m
Luminous Width (90-270)	0.08 m
Luminous Height	0.09 m

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6574	4182	3881
55	5947	3586	3447
65	5394	3095	3108
75	4539	2672	2792
85	2680	2337	2532

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**CANDELA TABULATION**

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
<b>0</b>	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53
<b>3</b>	729.33	728.85	728.18	728.44	727.81	727.67	727.86	728.03	728.20	728.49
<b>6</b>	721.54	720.44	720.29	719.83	719.42	719.29	719.89	720.40	720.82	721.30
<b>9</b>	713.48	713.45	714.08	713.93	714.21	715.15	716.72	717.62	717.55	716.94
<b>12</b>	705.07	707.41	709.64	710.43	711.02	712.59	715.31	716.19	714.91	713.13
<b>15</b>	695.29	698.00	701.53	701.60	700.68	703.52	706.71	707.52	706.24	706.51
<b>18</b>	683.81	685.89	686.76	688.23	687.28	691.25	694.18	693.03	694.35	698.15
<b>21</b>	670.17	669.00	669.81	673.97	677.30	682.72	685.94	682.01	682.98	689.65
<b>24</b>	652.58	651.03	651.58	655.72	665.12	672.16	677.64	673.14	672.88	680.38
<b>27</b>	630.14	635.33	634.93	639.54	650.42	654.74	663.88	661.63	661.07	669.45
<b>30</b>	606.36	617.70	619.29	621.77	630.88	633.06	645.49	646.66	648.46	657.30
<b>33</b>	584.60	591.60	599.32	601.00	609.88	615.52	627.75	629.80	635.83	644.05
<b>36</b>	563.08	561.41	575.12	580.28	588.30	598.59	609.20	613.51	622.38	627.39
<b>39</b>	539.42	535.53	550.68	557.49	566.67	580.26	587.21	595.88	608.20	606.06
<b>42</b>	514.18	510.11	519.82	534.16	547.54	561.44	569.59	576.92	590.38	585.25
<b>45</b>	487.39	480.79	489.02	507.06	525.64	541.36	552.21	560.94	568.96	569.47
<b>48</b>	454.23	451.64	463.83	478.86	498.54	516.58	530.23	544.59	546.53	554.27
<b>51</b>	412.60	425.14	435.74	451.67	469.06	488.35	506.11	523.94	527.37	534.43
<b>54</b>	375.56	393.51	410.66	422.45	441.14	461.74	480.43	500.09	508.73	511.13
<b>57</b>	353.24	360.12	378.69	394.13	419.96	438.11	459.50	475.05	489.93	487.26
<b>60</b>	329.25	329.02	341.42	360.58	394.12	415.91	441.39	453.14	468.38	465.99
<b>63</b>	287.90	294.96	311.42	329.03	361.90	391.05	419.99	432.52	445.81	449.01
<b>66</b>	242.73	254.21	279.94	303.16	334.78	368.22	393.81	410.63	423.32	432.05
<b>69</b>	209.09	218.76	249.28	273.16	309.36	346.73	369.12	389.92	402.47	410.99
<b>72</b>	180.13	189.14	216.72	245.61	287.37	323.69	345.83	370.50	384.33	388.22
<b>75</b>	146.30	156.07	183.76	220.02	261.29	300.96	322.51	348.94	366.30	366.76
<b>78</b>	109.87	121.26	156.85	198.01	239.31	275.94	303.67	325.79	346.82	345.79
<b>81</b>	80.20	95.39	138.96	180.46	222.92	255.92	288.46	310.03	327.63	327.26
<b>84</b>	50.21	74.63	115.19	160.52	200.77	235.25	272.18	293.00	309.98	304.84
<b>87</b>	25.70	52.43	95.84	141.24	185.08	218.20	253.69	270.93	289.27	286.35
<b>90</b>	9.73	36.60	77.75	119.13	161.46	199.79	233.22	253.98	272.30	278.15
<b>93</b>	0.58	12.98	36.78	59.29	75.82	96.89	120.26	145.90	127.63	138.08
<b>96</b>	0.06	1.70	2.79	3.19	6.82	7.34	9.21	13.36	16.59	10.13
<b>99</b>	0.03	0.31	0.96	1.16	1.29	1.22	1.54	1.45	4.55	0.86
<b>102</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>105</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>108</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>111</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>114</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>117</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>120</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>123</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>126</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>129</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>132</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>135</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>138</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>141</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>144</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>147</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>150</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>153</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>156</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>159</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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**CANDELA TABULATION - (Cont.)**

162	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53
3	728.56	728.70	728.75	728.64	728.58	728.81	727.97	727.96	727.71	727.22
6	721.59	721.87	722.13	721.97	722.04	721.88	721.17	719.75	719.15	718.01
9	716.40	715.98	715.63	715.20	714.65	713.68	713.26	711.72	711.32	710.58
12	711.76	710.64	709.59	708.67	707.92	706.00	704.12	702.25	701.84	702.90
15	706.55	705.47	702.60	700.20	697.88	696.63	694.45	689.43	687.97	690.88
18	700.64	698.60	693.16	688.39	684.26	683.85	681.05	676.57	672.75	678.24
21	691.52	687.59	679.88	673.66	669.07	666.75	663.54	659.99	659.33	663.60
24	679.30	671.83	663.06	658.36	650.70	644.05	641.35	640.76	645.86	646.92
27	665.93	654.00	647.60	643.61	632.74	623.88	616.88	620.68	629.54	626.64
30	652.06	637.81	633.43	629.47	615.88	606.21	593.87	598.36	608.94	600.35
33	635.43	620.73	619.33	615.35	601.52	592.48	570.59	572.30	583.41	568.38
36	616.72	604.28	601.74	594.12	579.70	575.49	547.68	542.68	553.93	536.12
39	600.63	588.02	578.69	567.59	548.14	543.77	528.31	513.59	522.36	510.46
42	583.12	571.38	558.03	545.99	523.27	510.41	504.81	484.78	491.96	486.18
45	562.38	555.33	538.01	530.50	503.71	476.44	470.07	456.06	464.77	458.44
48	541.61	535.19	515.48	507.60	482.37	448.52	443.56	427.12	436.47	428.61
51	522.91	511.21	494.27	478.10	452.52	429.89	403.66	400.63	402.90	400.87
54	502.04	491.76	474.23	453.62	418.95	403.49	374.58	372.28	366.83	371.68
57	482.34	472.94	452.23	430.38	395.59	369.45	343.84	340.81	331.72	340.72
60	463.00	450.40	427.40	403.04	371.73	334.63	314.01	305.30	296.86	307.08
63	442.38	428.45	406.04	374.85	338.37	307.18	289.74	268.50	260.90	273.18
66	420.36	407.07	382.83	350.55	312.20	284.72	258.31	230.41	224.10	237.12
69	400.63	384.47	357.03	326.94	291.40	256.62	227.21	195.38	187.23	199.17
72	383.03	362.86	336.63	304.98	271.99	230.38	197.07	163.56	151.27	161.99
75	362.60	342.97	317.03	286.07	247.36	204.91	166.97	132.10	117.04	129.97
78	340.50	322.01	294.63	265.22	226.39	182.79	140.58	101.15	84.42	102.09
81	321.28	302.26	274.34	241.30	203.21	160.72	115.56	71.50	51.49	72.61
84	301.36	281.90	260.42	221.01	180.70	142.57	93.94	54.29	27.20	51.72
87	280.98	274.67	242.69	204.79	166.81	121.20	77.21	35.71	8.88	33.85
90	263.30	254.38	223.29	188.77	146.65	105.52	66.39	26.81	1.23	22.83
93	131.57	152.03	121.81	108.11	88.18	70.39	40.08	12.38	1.07	11.15
96	20.86	15.46	13.17	14.91	12.49	7.56	6.09	2.72	0.47	1.64
99	6.42	1.03	0.74	0.95	0.96	0.12	0.15	0.87	0.11	0.39
102	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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**CANDELA TABULATION - (Cont.)**

135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53	732.53
3	726.50	726.87	726.17	726.09	726.43	726.81	727.25	727.90	728.37	728.96
6	717.71	716.99	716.29	715.89	716.40	717.01	717.83	719.24	720.85	722.44
9	710.56	709.96	709.85	710.16	710.77	711.25	711.70	712.44	713.98	715.95
12	705.12	706.90	708.26	709.11	709.41	708.81	708.14	708.01	708.61	709.82
15	697.11	700.43	702.60	704.35	703.51	702.43	702.94	704.67	705.12	704.96
18	683.39	686.58	687.96	691.36	690.73	690.42	694.74	699.69	701.30	699.60
21	667.13	668.30	670.87	675.57	678.95	680.12	684.31	690.99	694.16	691.67
24	647.61	648.80	654.54	661.34	670.12	672.44	674.24	680.35	683.88	678.88
27	622.64	632.15	641.53	646.13	658.17	660.40	663.61	669.67	670.96	662.49
30	594.87	610.79	624.05	627.42	639.79	642.12	651.51	657.28	656.33	648.46
33	569.16	587.81	603.21	611.20	622.26	623.72	637.63	641.55	640.08	634.01
36	550.56	567.89	579.49	593.72	606.09	611.52	622.72	624.49	623.28	617.52
39	534.10	542.66	551.40	570.54	583.63	596.97	606.56	608.18	607.23	599.86
42	507.63	513.40	527.09	546.11	560.85	575.91	586.70	591.41	589.79	580.79
45	469.64	483.44	508.19	527.61	541.14	555.66	566.05	572.69	571.36	562.80
48	444.07	459.17	487.71	505.85	521.68	536.20	545.82	552.97	552.65	544.02
51	408.90	437.14	457.66	479.06	501.11	514.01	525.62	533.37	533.67	522.25
54	377.68	404.96	424.32	455.74	480.36	492.84	503.41	512.96	511.00	501.34
57	343.30	371.19	399.15	430.76	459.90	473.09	483.81	490.90	487.62	481.32
60	313.66	338.16	373.59	403.32	436.13	454.46	464.71	468.48	464.38	460.28
63	289.73	311.63	341.72	377.91	412.04	434.50	445.46	447.02	444.93	437.12
66	256.28	286.81	314.81	353.61	385.97	410.05	425.45	425.94	427.57	413.63
69	223.18	253.26	292.02	326.76	360.43	385.67	403.59	404.52	407.99	392.32
72	193.53	226.24	272.20	301.94	338.55	365.34	381.33	383.67	385.92	371.77
75	163.98	203.40	244.63	280.74	316.12	343.50	358.84	364.16	361.96	350.52
78	138.66	182.52	222.24	259.45	293.86	318.15	338.39	344.85	339.93	328.90
81	115.41	159.90	199.88	234.34	267.86	296.29	317.00	322.21	319.17	306.77
84	92.02	140.80	177.16	214.96	249.59	282.56	300.25	304.79	304.38	286.68
87	77.24	117.70	161.87	200.69	232.81	263.51	281.70	282.77	283.20	261.76
90	63.12	106.41	145.07	185.98	212.12	243.01	261.24	272.28	263.09	245.16
93	40.62	73.64	93.86	126.75	148.06	175.77	167.14	168.84	165.39	169.03
96	6.64	9.21	16.25	21.24	21.58	24.92	27.56	18.81	24.66	23.67
99	0.12	0.22	1.39	1.74	2.38	3.41	10.07	2.21	8.47	4.34
102	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MRRS48-LED20DMVWHFR40.IES**

**CANDELA TABULATION - (Cont.)**

108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Vert. Horizontal Angles**

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	732.53	732.53	732.53	732.53	732.53	732.53	732.53
3	729.45	729.76	729.99	730.25	729.65	729.60	729.33
6	724.05	724.81	725.19	725.01	724.02	722.30	721.54
9	717.88	718.82	718.25	716.39	715.37	713.50	713.48
12	711.34	711.54	710.20	706.56	704.04	703.49	705.07
15	704.62	703.84	700.95	697.14	693.95	692.88	695.29
18	697.88	696.07	693.06	689.41	684.15	683.66	683.81
21	687.65	683.92	682.21	679.19	674.23	673.06	670.17
24	670.86	666.92	664.84	659.41	658.71	658.23	652.58
27	654.90	651.10	649.57	641.23	636.72	636.19	630.14
30	642.43	635.20	633.77	624.74	616.10	611.70	606.36
33	629.52	617.77	614.62	605.67	595.60	592.51	584.60
36	612.94	599.23	594.64	584.98	571.53	572.72	563.08
39	593.10	581.34	574.37	560.15	548.32	545.00	539.42
42	574.32	562.38	552.70	534.67	521.62	512.52	514.18
45	552.24	540.89	527.71	507.43	492.18	481.04	487.39
48	528.19	516.57	501.82	481.16	465.34	451.19	454.23
51	508.38	491.40	475.52	453.38	436.72	423.17	412.60
54	489.96	466.69	447.44	419.28	411.30	390.78	375.56
57	470.22	440.38	422.68	391.79	378.49	356.77	353.24
60	445.67	415.38	395.42	365.18	341.89	325.20	329.25
63	419.74	392.13	366.11	337.38	311.76	293.47	287.90
66	394.23	370.34	340.85	308.78	278.45	256.38	242.73
69	370.92	346.87	313.83	276.23	247.53	222.37	209.09
72	350.18	322.11	288.93	249.94	217.06	192.69	180.13
75	329.41	298.62	260.67	224.65	186.40	159.52	146.30
78	307.63	274.00	237.85	200.85	159.49	123.86	109.87

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MRRS48-LED20DMVWHFR40.IES**

**CANDELA TABULATION - (Cont.)**

<b>81</b>	283.26	251.57	220.71	183.07	141.90	97.55	80.20
<b>84</b>	262.76	232.71	197.67	160.77	116.04	74.53	50.21
<b>87</b>	243.94	212.74	179.26	136.33	93.89	52.55	25.70
<b>90</b>	225.74	187.81	154.45	115.85	74.50	35.04	9.73
<b>93</b>	143.54	116.25	89.53	66.01	43.24	13.29	0.58
<b>96</b>	17.92	12.80	12.05	5.65	3.92	1.57	0.06
<b>99</b>	4.59	3.26	2.43	2.22	1.32	0.36	0.03
<b>102</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>105</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>108</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>111</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>114</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>117</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>120</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>123</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>126</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>129</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>132</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>135</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>138</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>141</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>144</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>147</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>150</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>153</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>156</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>159</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>162</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>165</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>168</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>171</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>174</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>177</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>180</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MRRS48-LED20DMVWHFR40.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	217.48	N.A.	8.30
0-30	569.52	N.A.	21.70
0-40	903.48	N.A.	34.40
0-60	1736.26	N.A.	66.10
0-80	2308.82	N.A.	87.90
0-90	2565.18	N.A.	97.70
10-90	2509.4	N.A.	95.50
20-40	686.00	N.A.	26.10
20-50	1046.95	N.A.	39.90
40-70	1145.99	N.A.	43.60
60-80	572.56	N.A.	21.80
70-80	259.35	N.A.	9.90
80-90	256.36	N.A.	9.80
90-110	61.19	N.A.	2.30
90-120	61.19	N.A.	2.30
90-130	61.19	N.A.	2.30
90-150	61.19	N.A.	2.30
90-180	61.19	N.A.	2.30
110-180	0.00	N.A.	0.00
0-180	2626.37	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	55.78
10-20	161.70
20-30	352.04
30-40	333.96
40-50	360.95
50-60	471.83
60-70	313.22
70-80	259.35
80-90	256.36
90-100	60.86
100-110	0.33
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 : MRRS48-LED20DMVWHFR40.IES**

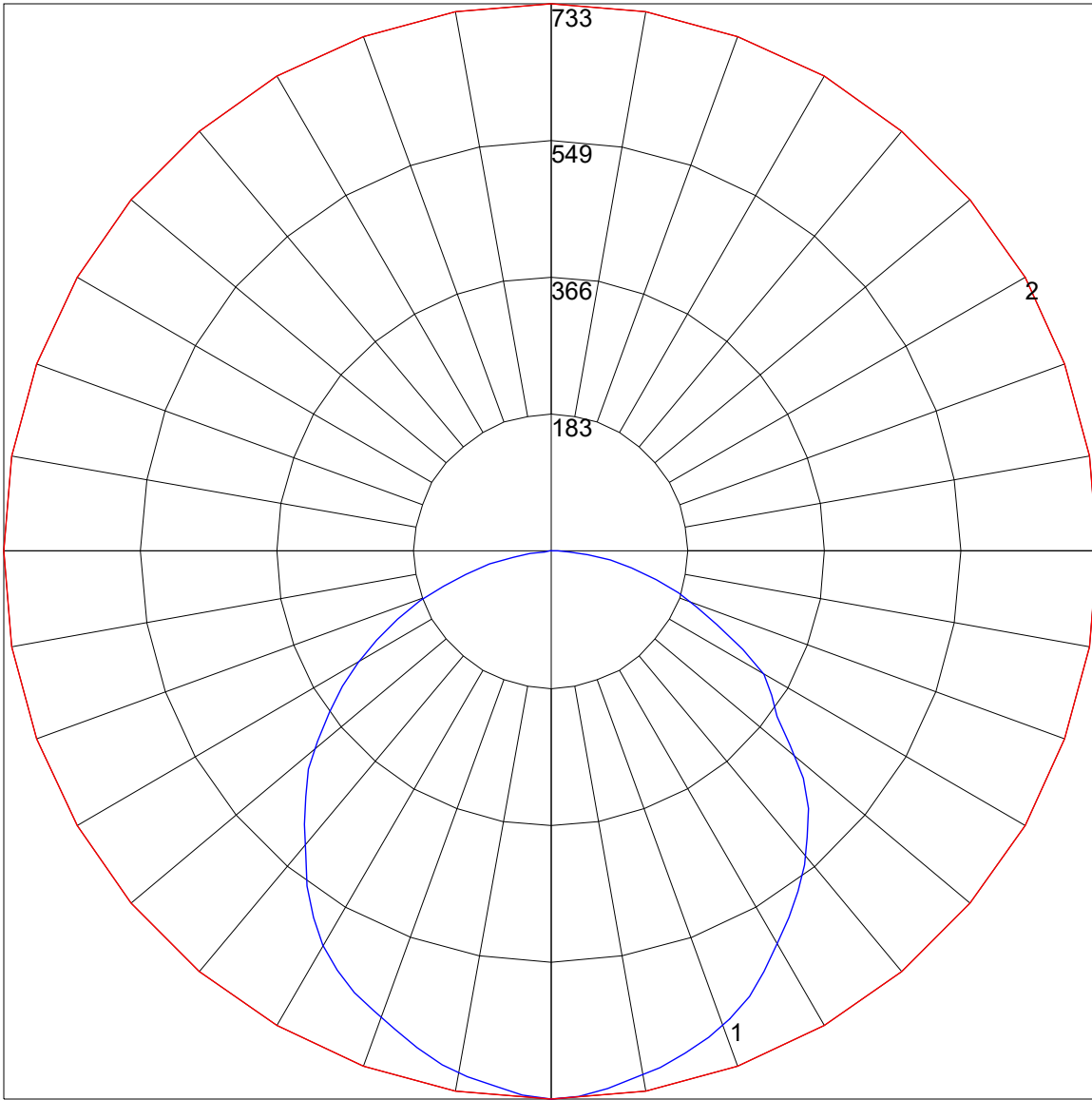
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	104	98	92	87	101	95	90	86	91	86	82	86	83	79	82	79	77	74
2	94	84	76	69	91	82	74	68	78	71	66	74	68	64	70	66	62	59
3	85	73	63	56	82	71	62	55	67	60	54	64	58	52	61	56	51	49
4	77	64	54	46	75	62	53	46	59	51	45	57	50	44	54	48	43	41
5	71	57	47	39	68	55	46	39	53	45	38	50	43	38	48	42	37	35
6	65	51	41	34	63	49	40	34	47	39	33	45	38	33	43	37	32	30
7	60	46	36	30	58	45	36	29	43	35	29	41	34	29	40	33	28	26
8	56	41	32	26	54	41	32	26	39	31	26	38	31	25	36	30	25	23
9	52	38	29	23	51	37	29	23	36	28	23	35	28	23	33	27	22	20
10	49	35	27	21	47	34	26	21	33	26	21	32	25	20	31	25	20	18



POLAR GRAPH



Maximum Candela = 732.53 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.)