

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: METALUX

Report Number: P295488

Luminaire Tested: **BMK-15-MCL-UNV-L735-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P295488  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-15-MCL-UNV-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM CLEAR LENS  
Light Source: (528) 70 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16432.0 lumens  
Efficiency: N/A  
Efficacy: 175.2 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.37  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

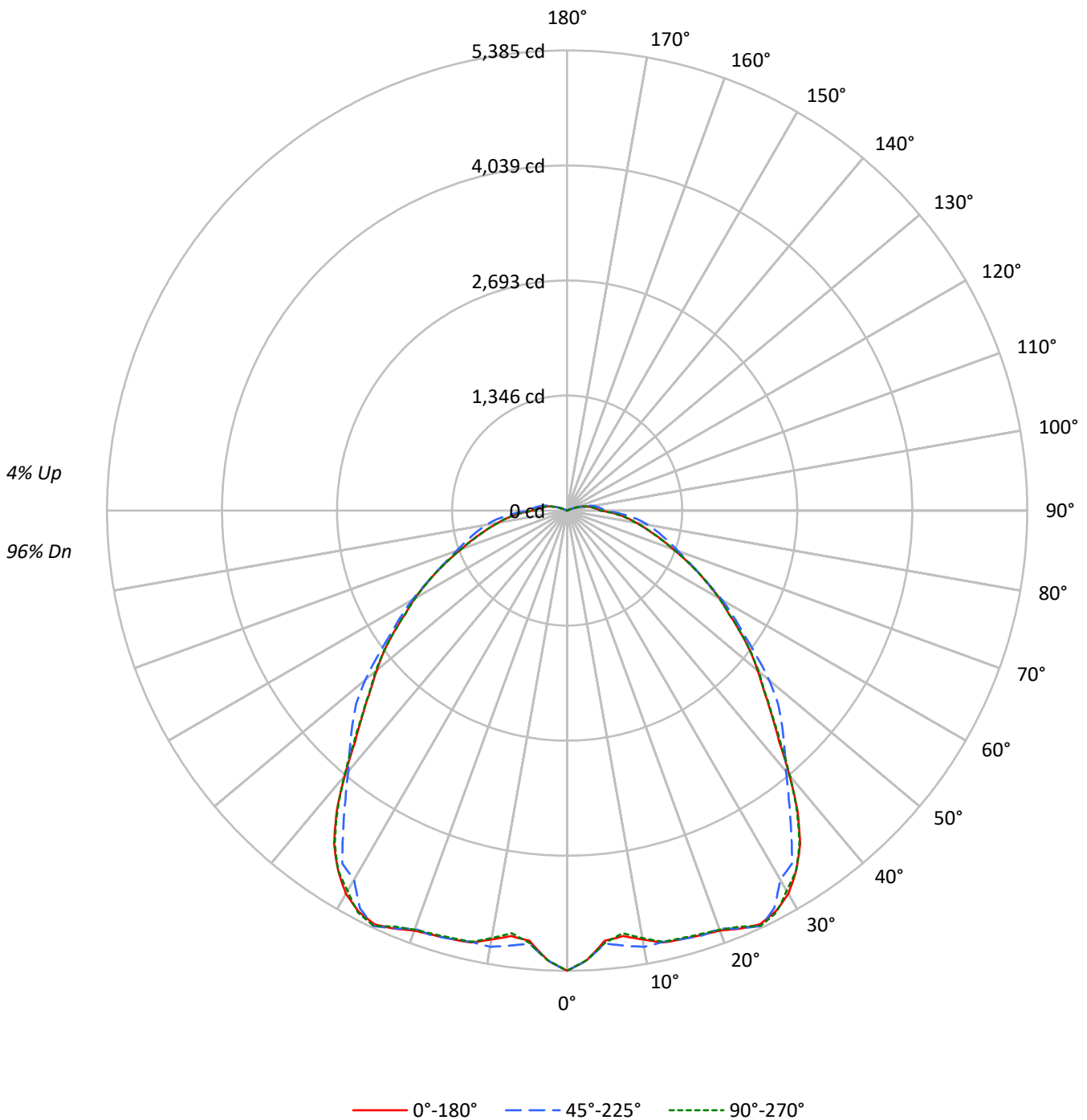
Input Watts (W): 93.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295488

CATALOG NUMBER: BMK-15-MCL-UNV-L735-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295488

CATALOG NUMBER: BMK-15-MCL-UNV-L735-CD-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	41511	41511	41511
5°	38699	38947	38876
10°	39064	39741	38948
15°	40165	40149	40058
20°	41123	40926	41024
25°	43042	43222	43191
30°	43119	41527	42795
35°	41306	39669	41168
40°	37047	36432	37107
45°	32969	34626	33065
50°	30531	32379	30704
55°	28365	28970	28388
60°	26357	26761	26247
65°	24341	24408	24323
70°	22384	23347	22463
75°	21430	23862	21498
80°	21687	25475	21496
85°	23251	26849	23153



TEST NUMBER: P295488

CATALOG NUMBER: BMK-15-MCL-UNV-L735-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	489.1	3.0
10°-20°	1474.4	9.0
20°-30°	2436.4	14.8
30°-40°	2899.8	17.6
40°-50°	2704.5	16.5
50°-60°	2253.7	13.7
60°-70°	1686.2	10.3
70°-80°	1170.7	7.1
80°-90°	709.6	4.3
90°-100°	379.7	2.3
100°-110°	197.4	1.2
110°-120°	30.0	0.2
120°-130°	0.5	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4400.0	26.8
0°-40°	7299.8	44.4
0°-60°	12258.0	74.6
0°-90°	15824.5	96.3
90°-120°	607.0	3.7
90°-150°	607.5	3.7
90°-180°	608.0	3.7
0°-180°	16432.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5385	5385	5385	5385	5385	
5°	5053	5091	5085	5078	5076	486
15°	5194	5229	5192	5217	5180	1471
25°	5342	5339	5364	5349	5360	2444
35°	4756	4678	4567	4681	4740	2937
45°	3385	3505	3555	3511	3395	2633
55°	2470	2509	2523	2511	2472	2212
65°	1676	1695	1681	1694	1675	1661
75°	1040	1099	1158	1101	1043	1114
85°	622	639	718	639	619	549
90°	393	419	440	416	387	227
95°	323	344	385	342	326	253
105°	181	184	206	183	183	190
115°	17	20	26	20	18	29
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P295488

CATALOG NUMBER: BMK-15-MCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5384.7	5384.7	5384.7	5384.7	5384.7
2.5°	5268.0	5272.6	5267.3	5253.5	5263.4
5°	5053.1	5090.7	5085.4	5078.2	5076.2
7.5°	5022.2	5078.8	5135.5	5073.6	4987.9
10°	5095.3	5152.0	5183.6	5147.4	5080.2
12.5°	5177.7	5175.1	5171.8	5169.1	5169.1
15°	5193.5	5229.1	5191.5	5217.3	5179.7
17.5°	5208.0	5233.7	5217.3	5229.8	5196.8
20°	5230.4	5256.8	5205.4	5244.3	5217.9
22.5°	5294.4	5313.5	5292.4	5311.5	5270.0
25°	5341.8	5339.2	5364.2	5349.1	5360.3
27.5°	5287.1	5270.6	5248.2	5243.0	5302.9
30°	5177.7	5089.4	4986.6	5070.3	5138.8
32.5°	4991.2	4995.8	4897.6	5001.7	4988.6
35°	4755.9	4678.1	4567.4	4680.8	4740.1
37.5°	4426.4	4367.7	4261.6	4367.0	4413.2
40°	4050.0	4059.9	3982.8	4057.9	4056.6
42.5°	3673.0	3769.9	3762.0	3754.1	3701.4
45°	3385.0	3505.0	3555.1	3510.9	3394.9
47.5°	3125.3	3292.7	3348.1	3294.1	3132.6
50°	2907.8	3018.6	3083.8	3017.9	2924.3
52.5°	2700.2	2739.1	2793.2	2751.0	2703.5
55°	2470.2	2509.1	2522.9	2511.1	2472.2
57.5°	2241.5	2302.8	2305.5	2298.2	2240.2
60°	2062.9	2088.0	2094.5	2096.5	2054.3
62.5°	1857.9	1892.2	1868.5	1892.2	1862.6
65°	1676.0	1695.1	1680.6	1694.5	1674.7
67.5°	1488.9	1541.6	1518.5	1538.9	1493.5
70°	1318.8	1386.0	1375.5	1387.4	1323.4
72.5°	1179.1	1238.4	1262.8	1233.8	1173.2
75°	1040.0	1099.3	1158.0	1101.3	1043.3
77.5°	930.0	974.8	1057.8	978.7	928.6
80°	819.2	860.8	962.3	857.5	812.0
82.5°	729.6	748.7	850.9	752.7	725.6
85°	621.5	639.3	717.7	639.3	618.9
87.5°	510.8	524.0	576.0	530.6	503.5
90°	392.8	419.2	439.6	415.9	386.9
92.5°	359.2	378.3	413.9	375.0	356.6
95°	322.9	344.0	384.9	342.1	326.2
97.5°	295.9	306.5	346.7	305.8	293.9
100°	262.3	272.9	313.7	269.6	258.4
102.5°	223.4	229.4	266.9	231.3	224.1
105°	181.2	184.5	206.3	182.6	182.6
107.5°	135.1	133.1	140.4	131.2	134.5
110°	87.0	81.1	87.7	81.1	88.3



TEST NUMBER: P295488

CATALOG NUMBER: BMK-15-MCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	47.5	42.8	51.4	43.5	46.8
115°	17.1	19.8	25.7	20.4	17.8
117.5°	4.6	7.9	9.2	7.9	4.6
120°	4.0	4.6	4.0	4.6	4.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)