

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: P295489

Luminaire Tested: **BMK-15-MCL-UNV-L740-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: P295489
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16649.0 lumens
Efficiency: N/A
Efficacy: 177.5 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

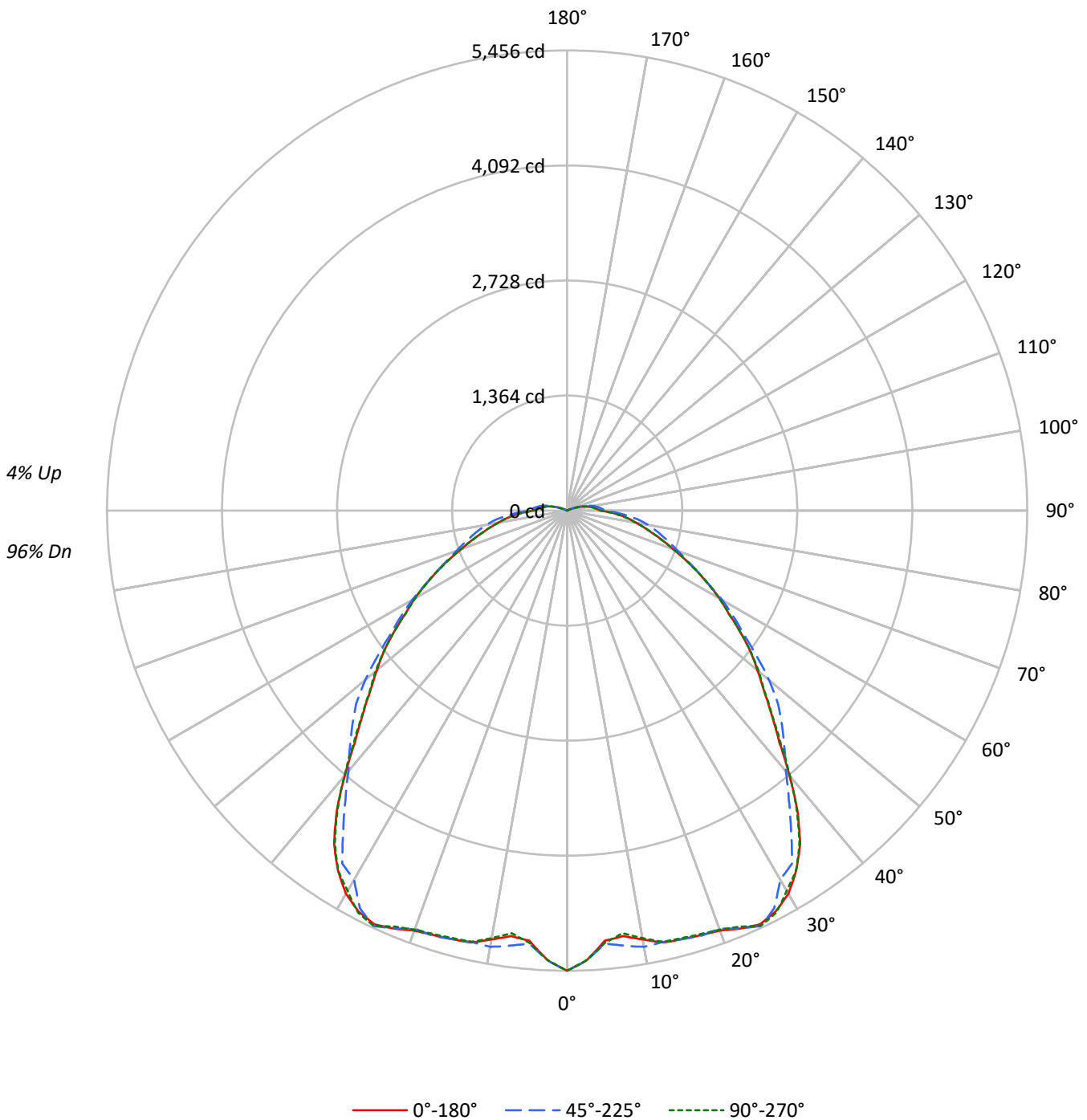
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P295489

CATALOG NUMBER: BMK-15-MCL-UNV-L740-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P295489

CATALOG NUMBER: BMK-15-MCL-UNV-L740-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°	42059	42059	42059
5°	39211	39461	39389
10°	39580	40266	39463
15°	40695	40680	40587
20°	41666	41466	41566
25°	43611	43794	43761
30°	43688	42075	43360
35°	41851	40192	41712
40°	37536	36913	37597
45°	33404	35082	33502
50°	30934	32806	31109
55°	28739	29354	28762
60°	26706	27115	26595
65°	24664	24731	24643
70°	22680	23656	22760
75°	21715	24177	21783
80°	21976	25812	21780
85°	23557	27205	23456



TEST NUMBER: P295489

CATALOG NUMBER: BMK-15-MCL-UNV-L740-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	495.6	3.0
10°-20°	1493.9	9.0
20°-30°	2468.6	14.8
30°-40°	2938.1	17.6
40°-50°	2740.2	16.5
50°-60°	2283.5	13.7
60°-70°	1708.5	10.3
70°-80°	1186.2	7.1
80°-90°	718.9	4.3
90°-100°	384.7	2.3
100°-110°	200.0	1.2
110°-120°	30.4	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°	4458.1	26.8
0°-40°	7396.2	44.4
0°-60°	12419.9	74.6
0°-90°	16033.5	96.3
90°-120°	615.0	3.7
90°-150°	615.5	3.7
90°-180°	616.0	3.7
0°-180°	16649.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5456	5456	5456	5456	5456	
5°	5120	5158	5153	5145	5143	492
15°	5262	5298	5260	5286	5248	1491
25°	5412	5410	5435	5420	5431	2477
35°	4819	4740	4628	4743	4803	2976
45°	3430	3551	3602	3557	3440	2668
55°	2503	2542	2556	2544	2505	2242
65°	1698	1718	1703	1717	1697	1683
75°	1054	1114	1173	1116	1057	1128
85°	630	648	727	648	627	556
90°	398	425	445	421	392	230
95°	327	349	390	347	331	257
105°	184	187	209	185	185	192
115°	17	20	26	21	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: P295489

CATALOG NUMBER: BMK-15-MCL-UNV-L740-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5455.8	5455.8	5455.8	5455.8	5455.8
2.5°	5337.6	5342.2	5336.9	5322.9	5332.9
5°	5119.9	5157.9	5152.6	5145.3	5143.2
7.5°	5088.5	5145.9	5203.3	5140.6	5053.8
10°	5162.6	5220.0	5252.1	5215.4	5147.3
12.5°	5246.1	5243.4	5240.1	5237.4	5237.4
15°	5262.1	5298.2	5260.1	5286.2	5248.1
17.5°	5276.8	5302.8	5286.2	5298.8	5265.5
20°	5299.5	5326.2	5274.1	5313.5	5286.8
22.5°	5364.3	5383.6	5362.3	5381.6	5339.6
25°	5412.4	5409.7	5435.1	5419.7	5431.1
27.5°	5356.9	5340.2	5317.5	5312.2	5373.0
30°	5246.1	5156.6	5052.4	5137.2	5206.7
32.5°	5057.1	5061.8	4962.3	5067.8	5054.4
35°	4818.7	4739.9	4627.7	4742.6	4802.7
37.5°	4484.8	4425.4	4317.9	4424.7	4471.5
40°	4103.5	4113.5	4035.4	4111.5	4110.2
42.5°	3721.5	3819.7	3811.7	3803.7	3750.3
45°	3429.7	3551.3	3602.0	3557.3	3439.7
47.5°	3166.6	3336.2	3392.3	3337.6	3174.0
50°	2946.2	3058.4	3124.5	3057.8	2962.9
52.5°	2735.9	2775.3	2830.1	2787.3	2739.2
55°	2502.8	2542.2	2556.3	2544.2	2504.8
57.5°	2271.1	2333.2	2335.9	2328.6	2269.8
60°	2090.2	2115.5	2122.2	2124.2	2081.5
62.5°	1882.5	1917.2	1893.2	1917.2	1887.1
65°	1698.2	1717.5	1702.8	1716.9	1696.8
67.5°	1508.5	1561.9	1538.6	1559.3	1513.2
70°	1336.2	1404.3	1393.7	1405.7	1340.9
72.5°	1194.7	1254.8	1279.5	1250.1	1188.6
75°	1053.8	1113.9	1173.3	1115.9	1057.1
77.5°	942.2	987.6	1071.8	991.7	940.9
80°	830.1	872.1	975.0	868.8	822.7
82.5°	739.2	758.6	862.1	762.6	735.2
85°	629.7	647.7	727.2	647.7	627.0
87.5°	517.5	530.9	583.6	537.6	510.2
90°	398.0	424.7	445.4	421.4	392.0
92.5°	363.9	383.3	419.4	380.0	361.3
95°	327.2	348.6	390.0	346.6	330.6
97.5°	299.8	310.5	351.3	309.9	297.8
100°	265.8	276.5	317.9	273.1	261.8
102.5°	226.4	232.4	270.5	234.4	227.0
105°	183.6	187.0	209.0	185.0	185.0
107.5°	136.9	134.9	142.2	132.9	136.2
110°	88.1	82.1	88.8	82.1	89.5



TEST NUMBER: P295489

CATALOG NUMBER: BMK-15-MCL-UNV-L740-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	48.1	43.4	52.1	44.1	47.4
115°	17.4	20.0	26.0	20.7	18.0
117.5°	4.7	8.0	9.3	8.0	4.7
120°	4.0	4.7	4.0	4.7	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)