

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: P295455

Luminaire Tested: **BMK-15-MFL-UNV-L835-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: P295455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-15-MFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14905.0 lumens
Efficiency: N/A
Efficacy: 158.9 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

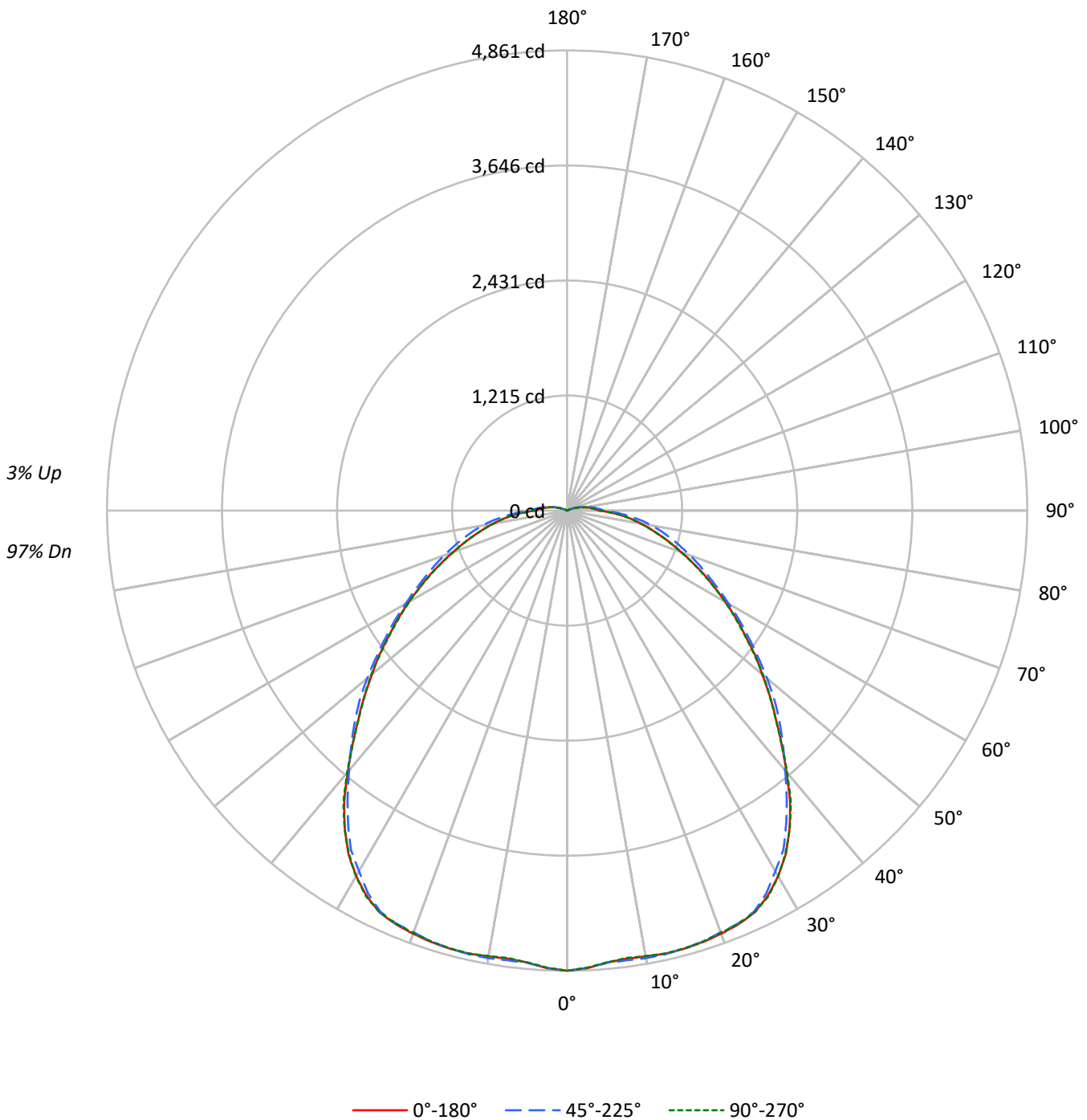
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	97
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	62	58	55
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	56	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	48	43	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	42	34	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	37472	37472	37472
5°	36709	36733	36704
10°	36654	36809	36635
15°	37046	37017	37022
20°	37396	37271	37333
25°	37742	37657	37732
30°	37116	36625	37152
35°	35558	35041	35611
40°	32952	32773	33070
45°	30382	30944	30346
50°	28234	28956	28370
55°	26326	26883	26254
60°	24633	25190	24609
65°	23143	23971	23008
70°	21712	23399	21692
75°	21008	23398	20983
80°	20993	23953	20946
85°	21653	24433	21586



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.7	3.1
10°-20°	1355.3	9.1
20°-30°	2143.5	14.4
30°-40°	2535.2	17.0
40°-50°	2436.9	16.3
50°-60°	2082.4	14.0
60°-70°	1615.7	10.8
70°-80°	1139.7	7.6
80°-90°	659.9	4.4
90°-100°	309.9	2.1
100°-110°	142.7	1.0
110°-120°	25.7	0.2
120°-130°	0.4	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°	3956.5	26.5
0°-40°	6491.7	43.6
0°-60°	11011.0	73.9
0°-90°	14426.4	96.8
90°-120°	478.2	3.2
90°-150°	478.6	3.2
90°-180°	479.0	3.2
0°-180°	14905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4861	4861	4861	4861	4861	
5°	4793	4794	4796	4790	4793	457
15°	4790	4795	4786	4790	4787	1355
25°	4684	4672	4674	4672	4683	2149
35°	4094	4067	4035	4072	4100	2548
45°	3119	3162	3177	3154	3116	2415
55°	2293	2324	2341	2327	2286	2060
65°	1594	1628	1650	1625	1584	1580
75°	1020	1070	1136	1074	1018	1084
85°	579	600	653	600	577	514
90°	339	371	388	370	338	196
95°	265	279	304	279	266	203
105°	130	131	141	132	129	138
115°	15	20	26	20	15	23
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4860.8	4860.8	4860.8	4860.8	4860.8
2.5°	4837.4	4832.5	4834.4	4828.8	4832.5
5°	4793.2	4794.5	4796.3	4789.6	4792.6
7.5°	4774.2	4780.4	4791.4	4777.3	4766.2
10°	4781.0	4791.4	4801.2	4785.9	4778.5
12.5°	4793.9	4796.9	4800.6	4793.2	4792.6
15°	4790.2	4795.1	4786.5	4789.6	4787.1
17.5°	4778.5	4780.4	4774.2	4777.3	4773.6
20°	4756.4	4753.3	4740.5	4750.3	4748.4
22.5°	4730.0	4725.7	4722.0	4727.6	4724.5
25°	4684.0	4672.3	4673.5	4671.7	4682.8
27.5°	4588.2	4569.2	4556.3	4565.5	4597.4
30°	4456.9	4431.1	4397.9	4429.3	4461.2
32.5°	4301.0	4281.3	4251.2	4279.5	4293.0
35°	4094.1	4067.1	4034.6	4072.0	4100.2
37.5°	3868.8	3852.3	3809.9	3850.4	3880.5
40°	3602.4	3606.1	3582.8	3614.7	3615.3
42.5°	3354.5	3379.6	3377.8	3377.8	3354.5
45°	3119.4	3161.7	3177.1	3154.4	3115.7
47.5°	2905.8	2948.1	2974.5	2944.4	2903.9
50°	2689.1	2733.9	2757.8	2728.4	2702.0
52.5°	2497.6	2517.8	2541.2	2515.4	2487.2
55°	2292.6	2324.5	2341.1	2327.0	2286.4
57.5°	2114.0	2136.7	2156.3	2142.2	2101.7
60°	1928.0	1953.1	1971.6	1960.5	1926.1
62.5°	1754.9	1791.7	1805.2	1787.4	1750.6
65°	1593.5	1628.4	1650.5	1625.4	1584.2
67.5°	1432.6	1478.7	1513.7	1483.6	1427.7
70°	1279.2	1339.9	1378.6	1332.6	1278.0
72.5°	1149.1	1203.7	1253.4	1201.8	1144.1
75°	1019.5	1069.9	1135.5	1073.6	1018.3
77.5°	902.3	950.2	1022.0	948.3	896.8
80°	793.0	831.1	904.8	828.6	791.2
82.5°	686.2	714.5	786.3	713.2	683.8
85°	578.8	600.3	653.1	600.3	577.0
87.5°	453.0	488.0	518.1	486.8	446.2
90°	338.8	371.4	388.5	370.1	337.6
92.5°	302.0	318.6	346.2	318.6	302.0
95°	265.2	279.3	304.4	278.7	266.4
97.5°	230.2	241.2	265.2	240.0	231.4
100°	198.3	203.8	225.9	205.0	197.0
102.5°	163.9	167.6	183.5	166.3	163.9
105°	129.5	131.4	141.2	132.0	128.9
107.5°	94.5	96.4	101.3	95.8	93.9
110°	62.6	63.8	70.0	63.8	63.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	36.2	39.3	45.4	39.3	36.2
115°	15.3	19.6	25.8	19.6	15.3
117.5°	4.9	8.0	9.8	8.0	4.3
120°	3.1	3.7	3.1	3.7	3.1
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)