

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: P295487

Luminaire Tested: **BMK-12-MCL-UNV-L850-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: P295487
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-12-MCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12315.0 lumens
Efficiency: N/A
Efficacy: 165.7 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

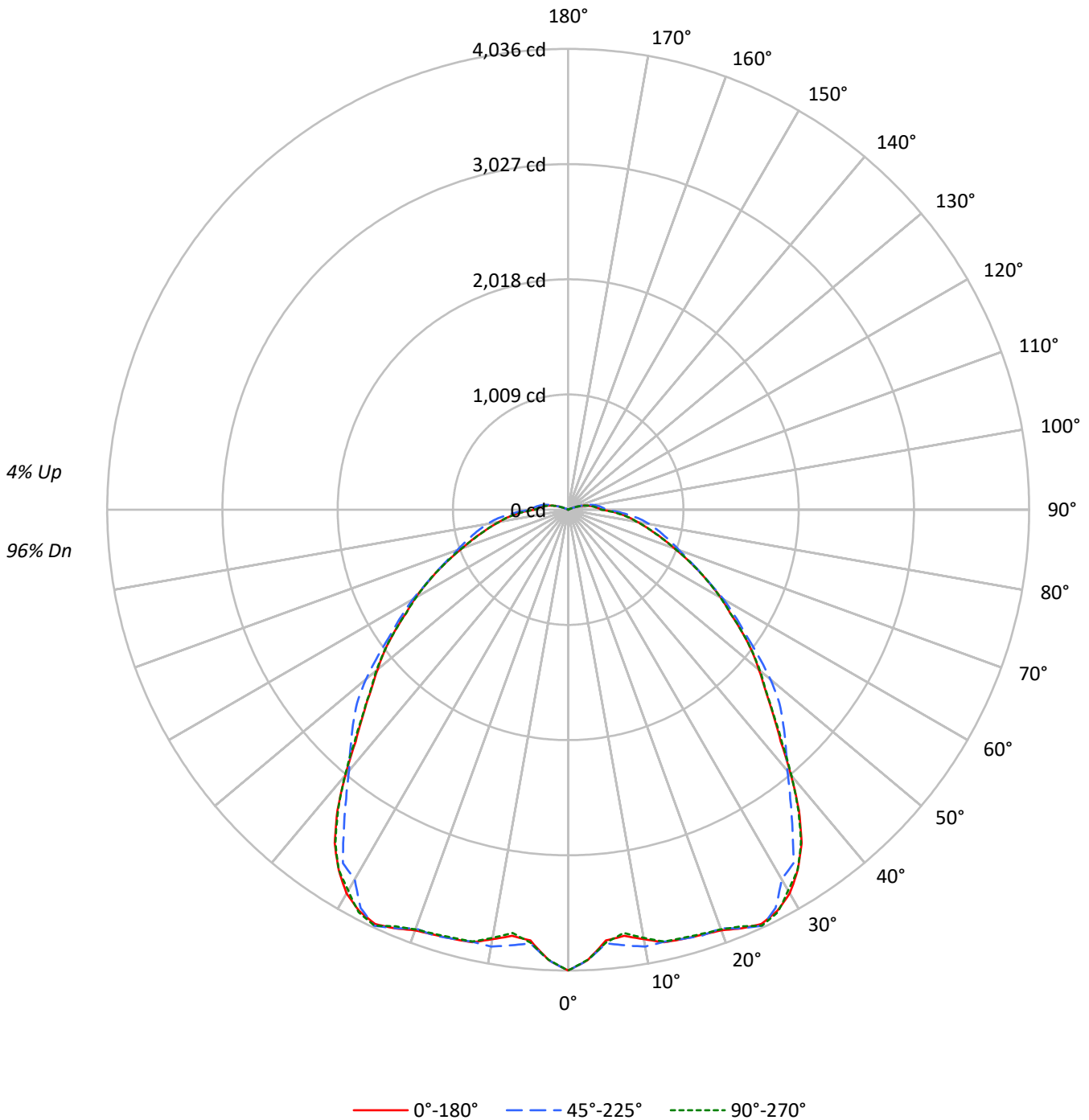
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	31110	31110	31110
5°	29004	29189	29136
10°	29277	29784	29189
15°	30102	30090	30021
20°	30820	30672	30746
25°	32258	32393	32370
30°	32315	31123	32073
35°	30956	29730	30854
40°	27765	27304	27810
45°	24709	25950	24781
50°	22882	24267	23011
55°	21258	21712	21275
60°	19754	20057	19671
65°	18243	18294	18228
70°	16776	17498	16834
75°	16060	17884	16112
80°	16255	19093	16109
85°	17426	20123	17351



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.6	3.0
10°-20°	1105.0	9.0
20°-30°	1826.0	14.8
30°-40°	2173.3	17.6
40°-50°	2026.9	16.5
50°-60°	1689.0	13.7
60°-70°	1263.7	10.3
70°-80°	877.4	7.1
80°-90°	531.8	4.3
90°-100°	284.5	2.3
100°-110°	147.9	1.2
110°-120°	22.5	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°	3297.6	26.8
0°-40°	5470.8	44.4
0°-60°	9186.8	74.6
0°-90°	11859.7	96.3
90°-120°	454.9	3.7
90°-150°	455.3	3.7
90°-180°	455.0	3.7
0°-180°	12315.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4036	4036	4036	4036	4036	
5°	3787	3815	3811	3806	3804	364
15°	3892	3919	3891	3910	3882	1103
25°	4003	4002	4020	4009	4017	1832
35°	3564	3506	3423	3508	3552	2201
45°	2537	2627	2664	2631	2544	1974
55°	1851	1880	1891	1882	1853	1658
65°	1256	1270	1260	1270	1255	1245
75°	779	824	868	825	782	835
85°	466	479	538	479	464	411
90°	294	314	330	312	290	170
95°	242	258	288	256	244	190
105°	136	138	155	137	137	142
115°	13	15	19	15	13	22
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°	4035.5	4035.5	4035.5	4035.5	4035.5
2.5°	3948.1	3951.6	3947.6	3937.2	3944.7
5°	3787.1	3815.2	3811.3	3805.9	3804.4
7.5°	3763.9	3806.4	3848.8	3802.4	3738.2
10°	3818.7	3861.2	3884.9	3857.7	3807.3
12.5°	3880.4	3878.5	3876.0	3874.0	3874.0
15°	3892.3	3919.0	3890.8	3910.1	3881.9
17.5°	3903.2	3922.4	3910.1	3919.5	3894.8
20°	3920.0	3939.7	3901.2	3930.3	3910.6
22.5°	3967.9	3982.2	3966.4	3980.7	3949.6
25°	4003.4	4001.5	4020.2	4008.9	4017.3
27.5°	3962.4	3950.1	3933.3	3929.3	3974.3
30°	3880.4	3814.3	3737.2	3799.9	3851.3
32.5°	3740.7	3744.1	3670.5	3748.6	3738.7
35°	3564.3	3506.0	3423.1	3508.0	3552.5
37.5°	3317.3	3273.4	3193.9	3272.9	3307.5
40°	3035.3	3042.7	2984.9	3041.2	3040.2
42.5°	2752.8	2825.4	2819.4	2813.5	2774.0
45°	2536.9	2626.8	2664.3	2631.3	2544.3
47.5°	2342.3	2467.8	2509.2	2468.7	2347.7
50°	2179.3	2262.3	2311.2	2261.8	2191.6
52.5°	2023.7	2052.8	2093.3	2061.7	2026.2
55°	1851.3	1880.5	1890.8	1881.9	1852.8
57.5°	1679.9	1725.9	1727.8	1722.4	1678.9
60°	1546.1	1564.8	1569.8	1571.2	1539.6
62.5°	1392.4	1418.1	1400.3	1418.1	1395.9
65°	1256.1	1270.4	1259.6	1269.9	1255.1
67.5°	1115.8	1155.3	1138.1	1153.4	1119.3
70°	988.4	1038.8	1030.9	1039.8	991.8
72.5°	883.7	928.1	946.4	924.7	879.2
75°	779.4	823.9	867.9	825.4	781.9
77.5°	697.0	730.5	792.8	733.5	696.0
80°	614.0	645.1	721.2	642.6	608.5
82.5°	546.8	561.1	637.7	564.1	543.8
85°	465.8	479.1	537.9	479.1	463.8
87.5°	382.8	392.7	431.7	397.6	377.4
90°	294.4	314.2	329.5	311.7	289.9
92.5°	269.2	283.5	310.2	281.1	267.2
95°	242.0	257.8	288.5	256.4	244.5
97.5°	221.8	229.7	259.8	229.2	220.3
100°	196.6	204.5	235.1	202.0	193.6
102.5°	167.4	171.9	200.0	173.4	167.9
105°	135.8	138.3	154.6	136.8	136.8
107.5°	101.3	99.8	105.2	98.3	100.8
110°	65.2	60.8	65.7	60.8	66.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	35.6	32.1	38.5	32.6	35.1
115°	12.8	14.8	19.3	15.3	13.3
117.5°	3.5	5.9	6.9	5.9	3.5
120°	3.0	3.5	3.0	3.5	3.0
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)