

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: P295481

Luminaire Tested: **BMK-36-MFL-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: P295481
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-36-MFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED 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: 35490.0 lumens
Efficiency: N/A
Efficacy: 146.0 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

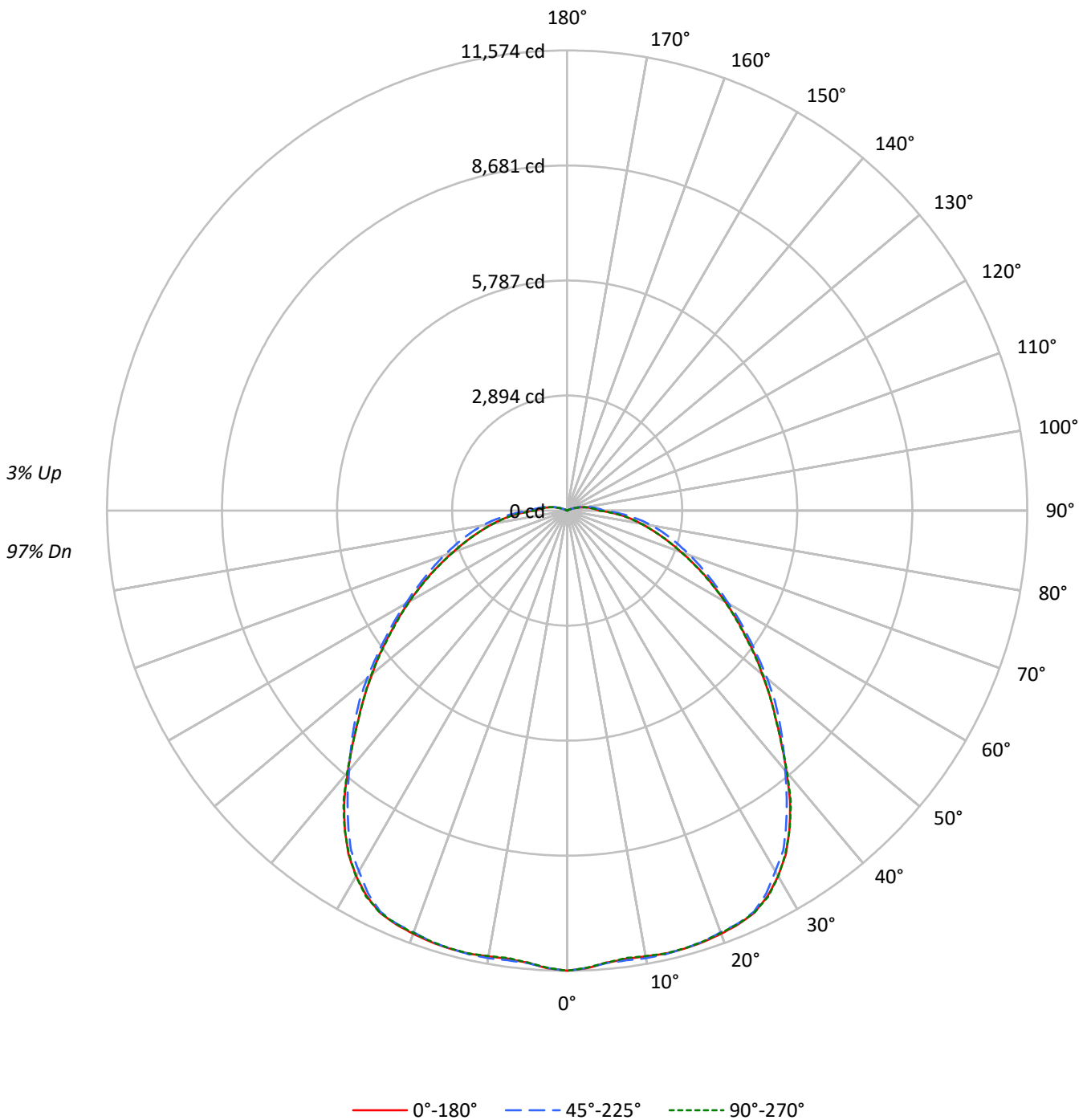
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	89224	89224	89224
5°	87408	87464	87396
10°	87276	87646	87231
15°	88209	88141	88152
20°	89043	88744	88894
25°	89865	89665	89842
30°	88376	87208	88461
35°	84666	83435	84793
40°	78463	78036	78744
45°	72342	73680	72256
50°	67229	68948	67551
55°	62683	64009	62515
60°	58654	59979	58597
65°	55104	57079	54786
70°	51697	55717	51648
75°	50023	55715	49963
80°	49990	57032	49873
85°	51559	58177	51394



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1089.7	3.1
10°-20°	3227.0	9.1
20°-30°	5104.0	14.4
30°-40°	6036.5	17.0
40°-50°	5802.5	16.3
50°-60°	4958.4	14.0
60°-70°	3847.2	10.8
70°-80°	2713.8	7.6
80°-90°	1571.1	4.4
90°-100°	737.8	2.1
100°-110°	339.7	1.0
110°-120°	61.2	0.2
120°-130°	0.9	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°	9420.7	26.5
0°-40°	15457.2	43.6
0°-60°	26218.2	73.9
0°-90°	34350.4	96.8
90°-120°	1138.7	3.2
90°-150°	1139.6	3.2
90°-180°	1140.0	3.2
0°-180°	35490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11574	11574	11574	11574	11574	
5°	11413	11416	11420	11404	11412	###
15°	11406	11418	11397	11404	11398	3227
25°	11153	11125	11128	11124	11150	5118
35°	9748	9684	9607	9696	9763	6068
45°	7428	7528	7565	7511	7419	5751
55°	5459	5535	5574	5541	5444	4904
65°	3794	3877	3930	3870	3772	3763
75°	2428	2547	2704	2556	2425	2582
85°	1378	1429	1555	1429	1374	1224
90°	807	884	925	881	804	467
95°	631	665	725	664	634	484
105°	308	313	336	314	307	328
115°	36	47	61	47	36	54
125°	0	0	0	0	0	1
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°	11573.9	11573.9	11573.9	11573.9	11573.9
2.5°	11518.3	11506.6	11511.0	11497.9	11506.6
5°	11413.1	11416.0	11420.4	11404.3	11411.6
7.5°	11367.8	11382.4	11408.7	11375.1	11348.8
10°	11383.9	11408.7	11432.1	11395.6	11378.0
12.5°	11414.6	11421.9	11430.6	11413.1	11411.6
15°	11405.8	11417.5	11397.0	11404.3	11398.5
17.5°	11378.0	11382.4	11367.8	11375.1	11366.3
20°	11325.4	11318.1	11287.4	11310.8	11306.4
22.5°	11262.6	11252.3	11243.6	11256.7	11249.4
25°	11152.9	11125.2	11128.1	11123.7	11150.0
27.5°	10924.9	10879.6	10848.9	10870.9	10946.9
30°	10612.2	10550.8	10471.9	10546.4	10622.4
32.5°	10240.9	10194.2	10122.6	10189.8	10221.9
35°	9748.4	9684.1	9606.6	9695.8	9763.0
37.5°	9212.0	9172.6	9071.7	9168.2	9239.8
40°	8577.7	8586.5	8531.0	8607.0	8608.4
42.5°	7987.3	8047.2	8042.8	8042.8	7987.3
45°	7427.5	7528.3	7564.9	7510.8	7418.7
47.5°	6918.9	7019.7	7082.6	7011.0	6914.5
50°	6403.0	6509.7	6566.7	6496.5	6433.7
52.5°	5947.0	5995.2	6050.7	5989.4	5922.1
55°	5458.8	5534.8	5574.3	5540.7	5444.2
57.5°	5033.5	5087.6	5134.4	5100.7	5004.3
60°	4590.7	4650.6	4694.4	4668.1	4586.3
62.5°	4178.5	4266.2	4298.4	4256.0	4168.3
65°	3794.1	3877.4	3930.1	3870.1	3772.2
67.5°	3411.2	3520.8	3604.1	3532.5	3399.5
70°	3045.8	3190.5	3282.6	3173.0	3042.9
72.5°	2736.0	2866.1	2984.4	2861.7	2724.3
75°	2427.6	2547.4	2703.8	2556.2	2424.7
77.5°	2148.4	2262.4	2433.4	2258.1	2135.3
80°	1888.3	1978.9	2154.3	1973.1	1883.9
82.5°	1634.0	1701.2	1872.2	1698.3	1628.1
85°	1378.2	1429.4	1555.1	1429.4	1373.8
87.5°	1078.6	1161.9	1233.5	1159.0	1062.5
90°	806.8	884.2	925.1	881.3	803.8
92.5°	719.1	758.5	824.3	758.5	719.1
95°	631.4	665.0	724.9	663.5	634.3
97.5°	548.1	574.4	631.4	571.5	551.0
100°	472.1	485.2	537.8	488.2	469.2
102.5°	390.2	399.0	437.0	396.1	390.2
105°	308.4	312.8	336.2	314.2	306.9
107.5°	225.1	229.5	241.2	228.0	223.6
110°	149.1	152.0	166.6	152.0	150.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	86.2	93.5	108.2	93.5	86.2
115°	36.5	46.8	61.4	46.8	36.5
117.5°	11.7	19.0	23.4	19.0	10.2
120°	7.3	8.8	7.3	8.8	7.3
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)