

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: P381722

Luminaire Tested: **BMK-60-MCL-UNV-L850-CD-U**

Issue Date: 2/4/2020

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: P381722
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-MCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 59156.8 lumens
Efficiency: N/A
Efficacy: 145.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

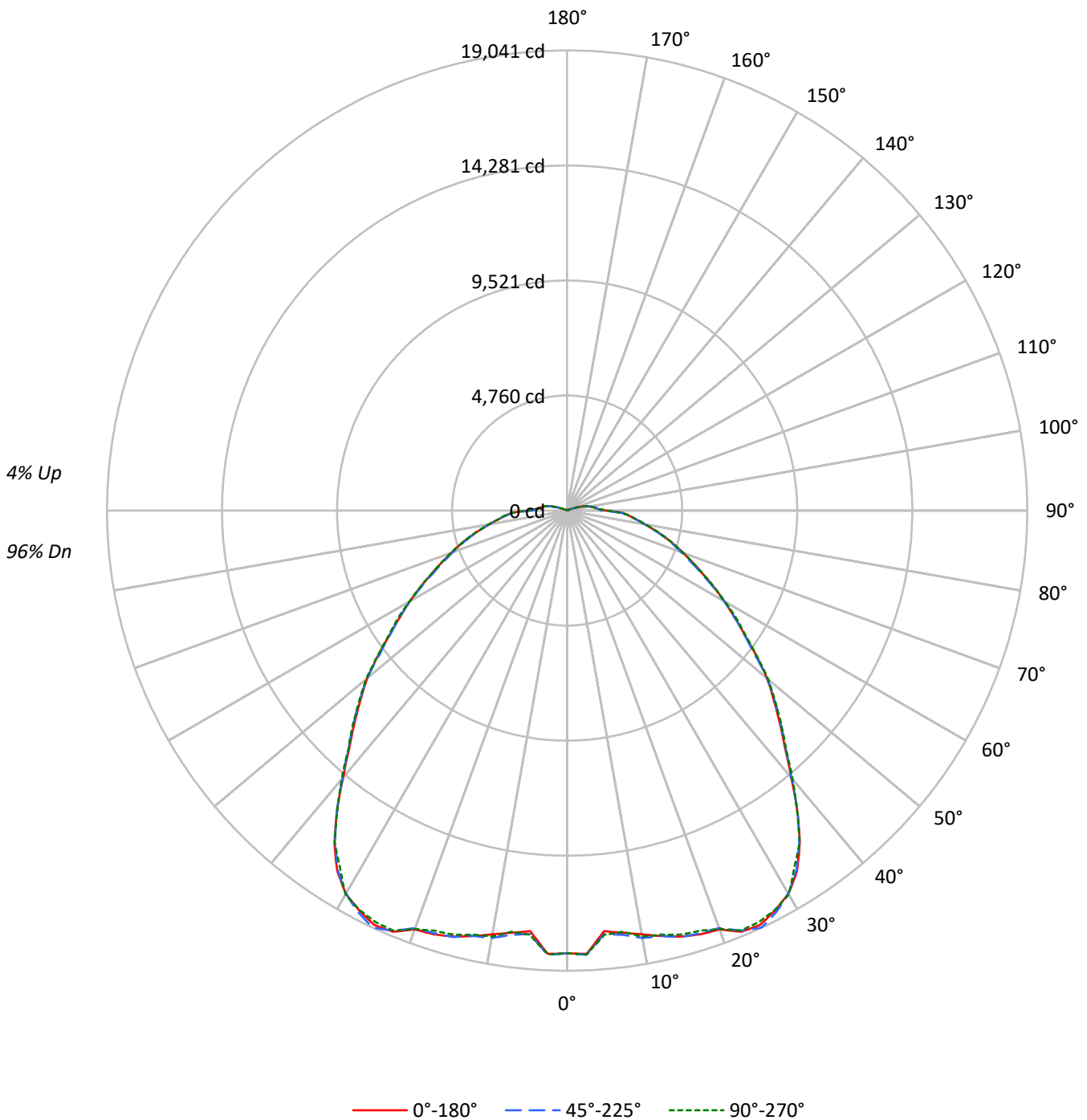
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	87	89	87	84	85	83	81	78
2	97	88	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	63	59	66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	141265	141265	141265
5°	133828	134742	135040
10°	136574	137760	137265
15°	141177	141356	140546
20°	145027	144635	144913
25°	152457	153497	151397
30°	152539	152468	152853
35°	145851	145491	145703
40°	131919	132098	132867
45°	121211	121803	122195
50°	113415	113607	114067
55°	103016	102694	103491
60°	96027	95934	96322
65°	89910	88778	89980
70°	86512	85417	86656
75°	85852	84673	85778
80°	86084	86340	87437
85°	97358	96950	98679



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1698.9	2.9
10°-20°	5163.0	8.7
20°-30°	8656.2	14.6
30°-40°	10382.3	17.6
40°-50°	9677.5	16.4
50°-60°	8071.9	13.6
60°-70°	6132.3	10.4
70°-80°	4374.3	7.4
80°-90°	2771.8	4.7
90°-100°	1331.3	2.3
100°-110°	693.1	1.2
110°-120°	94.0	0.2
120°-130°	28.1	0.0
130°-140°	31.2	0.1
140°-150°	26.1	0.0
150°-160°	14.0	0.0
160°-170°	8.0	0.0
170°-180°	2.7	0.0
0°-30°	15518.1	26.2
0°-40°	25900.4	43.8
0°-60°	43649.8	73.8
0°-90°	56928.3	96.2
90°-120°	2118.4	3.6
90°-150°	2203.8	3.7
90°-180°	2228.0	3.8
0°-180°	59156.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	18315	18315	18315	18315	18315	
5°	17466	17541	17585	17597	17624	###
15°	18246	18196	18269	18309	18164	5167
25°	18912	18951	19041	18902	18780	8651
35°	16785	16739	16744	16797	16768	10394
45°	12439	12472	12500	12514	12540	9640
55°	8967	8944	8939	8916	9008	8090
65°	6188	6081	6110	6121	6193	6177
75°	4165	4134	4107	4117	4161	4392
85°	2602	2602	2591	2580	2637	2258
90°	1608	1546	1416	1529	1634	940
95°	1180	1226	1228	1192	1184	929
105°	667	674	668	662	676	697
115°	54	57	58	56	57	92
125°	32	32	30	32	33	28
135°	40	40	40	40	41	31
145°	44	43	43	43	41	27
155°	29	29	28	28	29	14
165°	29	28	28	28	28	8
175°	27	28	27	28	29	3
180°	28	28	28	28	28	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	18315.3	18315.3	18315.3	18315.3	18315.3
2.5°	18360.3	18312.9	18399.3	18429.7	18382.2
5°	17465.6	17541.0	17584.9	17597.0	17623.8
7.5°	17617.7	17541.0	17703.0	17703.0	17577.6
10°	17805.2	17982.9	17959.8	17930.6	17895.3
12.5°	18035.3	18028.0	18025.6	18000.0	17970.8
15°	18245.9	18196.0	18269.0	18309.2	18164.3
17.5°	18379.8	18239.8	18337.2	18405.4	18228.9
20°	18437.0	18292.2	18387.1	18501.5	18422.4
22.5°	18865.5	18774.2	18812.0	18897.2	18808.3
25°	18911.8	18950.8	19040.8	18902.1	18780.3
27.5°	18644.0	18700.0	18735.3	18715.8	18620.8
30°	18308.0	18294.6	18299.5	18367.6	18345.7
32.5°	17701.7	17625.0	17653.0	17576.3	17497.2
35°	16785.1	16738.8	16743.7	16797.2	16768.0
37.5°	15645.6	15575.0	15650.5	15689.4	15623.7
40°	14414.8	14519.5	14434.3	14462.3	14518.3
42.5°	13349.6	13444.6	13400.8	13439.7	13394.7
45°	12439.1	12471.9	12499.9	12514.5	12540.1
47.5°	11593.0	11628.3	11650.2	11666.0	11667.2
50°	10796.8	10783.4	10815.1	10733.5	10858.9
52.5°	9870.4	9782.8	9779.1	9752.3	9893.5
55°	8967.1	8944.0	8939.1	8916.0	9008.5
57.5°	8203.8	8206.3	8218.4	8225.7	8303.7
60°	7512.4	7447.9	7505.1	7488.0	7535.5
62.5°	6838.0	6761.3	6789.3	6788.0	6851.3
65°	6187.9	6080.7	6110.0	6120.9	6192.7
67.5°	5623.0	5565.8	5532.9	5579.2	5631.5
70°	5094.7	5055.7	5030.2	5060.6	5103.2
72.5°	4616.3	4561.5	4562.7	4556.6	4632.1
75°	4164.6	4134.2	4107.4	4117.1	4161.0
77.5°	3681.3	3720.3	3667.9	3687.4	3706.9
80°	3250.4	3294.2	3260.1	3256.5	3301.5
82.5°	2909.5	2913.2	2911.9	2891.2	2905.9
85°	2601.5	2601.5	2590.6	2579.6	2636.8
87.5°	2317.9	2258.2	2246.0	2254.6	2288.7
90°	1608.1	1546.1	1415.8	1529.0	1633.7
92.5°	1324.5	1347.6	1313.5	1313.5	1328.1
95°	1179.6	1225.9	1228.3	1191.8	1184.5
97.5°	1084.7	1113.9	1102.9	1083.5	1094.4
100°	969.0	978.8	969.0	961.7	965.4
102.5°	864.3	863.1	858.2	849.7	872.9
105°	667.1	674.4	668.3	662.2	675.6
107.5°	467.5	461.4	451.6	452.9	458.9
110°	283.6	284.9	267.8	272.7	289.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	129.0	136.3	141.2	133.9	137.6
115°	53.6	57.2	58.4	56.0	57.2
117.5°	28.0	28.0	26.8	28.0	30.4
120°	25.6	26.8	24.3	25.6	28.0
122.5°	28.0	29.2	28.0	29.2	30.4
125°	31.7	31.7	30.4	31.7	32.9
127.5°	34.1	34.1	32.9	34.1	35.3
130°	35.3	36.5	36.5	36.5	36.5
132.5°	37.7	39.0	37.7	39.0	39.0
135°	40.2	40.2	40.2	40.2	41.4
137.5°	42.6	42.6	42.6	42.6	42.6
140°	43.8	43.8	43.8	43.8	43.8
142.5°	45.0	43.8	43.8	43.8	42.6
145°	43.8	42.6	42.6	42.6	41.4
147.5°	40.2	40.2	39.0	40.2	39.0
150°	36.5	35.3	35.3	35.3	35.3
152.5°	31.7	31.7	30.4	31.7	31.7
155°	29.2	29.2	28.0	28.0	29.2
157.5°	29.2	29.2	28.0	28.0	29.2
160°	29.2	29.2	28.0	28.0	28.0
162.5°	29.2	29.2	28.0	28.0	28.0
165°	29.2	28.0	28.0	28.0	28.0
167.5°	29.2	28.0	28.0	28.0	28.0
170°	29.2	28.0	28.0	28.0	28.0
172.5°	28.0	28.0	28.0	28.0	28.0
175°	26.8	28.0	26.8	28.0	29.2
177.5°	26.8	26.8	26.8	28.0	29.2
180°	28.0	28.0	28.0	28.0	28.0

(END OF REPORT)