

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: P381720

Luminaire Tested: **BMK-60-MCL-UNV-L835-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: P381720
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-L835-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: 58036.0 lumens
Efficiency: N/A
Efficacy: 143.1 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

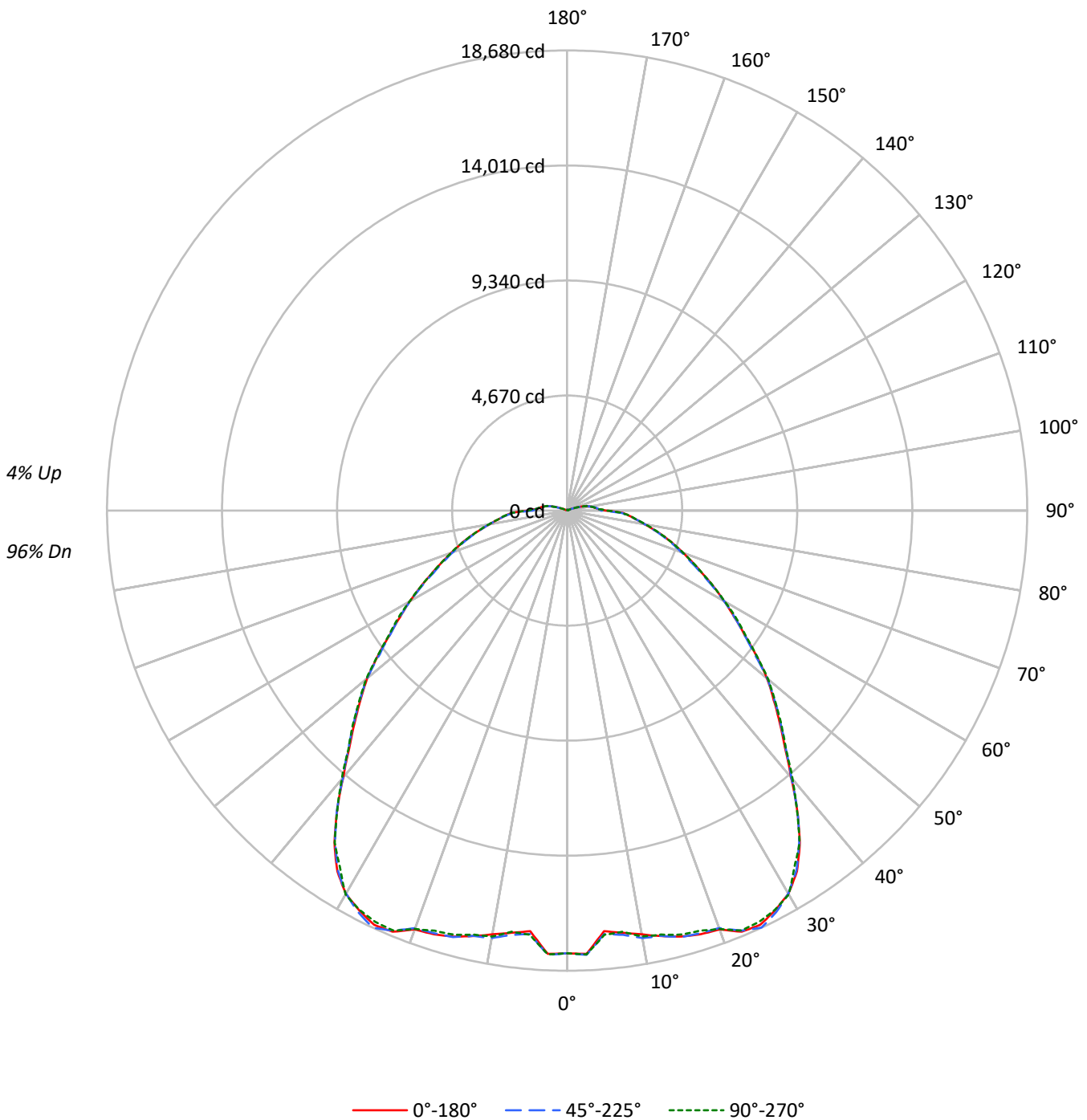
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	96	
1	107	102	97	93	104	99	95	91	94	90	87	89	87	84	85	83	81	85	83	81	78	
2	97	88	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	75	71	68	65	
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	66	61	57	55	
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	59	54	49	47	
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	53	48	43	41	
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	48	42	38	36	
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	44	38	34	32	
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	41	35	30	28	
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	37	32	27	25	
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	35	29	25	23	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	138588	138588	138588
5°	131292	132189	132482
10°	133987	135149	134664
15°	138503	138678	137884
20°	142280	141894	142167
25°	149568	150589	148528
30°	149648	149578	149957
35°	143087	142734	142942
40°	129420	129595	130349
45°	118914	119496	119879
50°	111267	111455	111907
55°	101064	100749	101530
60°	94207	94116	94497
65°	88206	87096	88276
70°	84873	83799	85014
75°	84226	83069	84151
80°	84452	84704	85779
85°	95513	95112	96812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1666.7	2.9
10°-20°	5065.2	8.7
20°-30°	8492.2	14.6
30°-40°	10185.6	17.6
40°-50°	9494.2	16.4
50°-60°	7918.9	13.6
60°-70°	6016.1	10.4
70°-80°	4291.4	7.4
80°-90°	2719.3	4.7
90°-100°	1306.1	2.3
100°-110°	680.0	1.2
110°-120°	92.2	0.2
120°-130°	27.5	0.0
130°-140°	30.6	0.1
140°-150°	25.6	0.0
150°-160°	13.8	0.0
160°-170°	7.9	0.0
170°-180°	2.6	0.0
0°-30°	15224.1	26.2
0°-40°	25409.7	43.8
0°-60°	42822.8	73.8
0°-90°	55849.6	96.2
90°-120°	2078.3	3.6
90°-150°	2162.1	3.7
90°-180°	2186.0	3.8
0°-180°	58036.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17968	17968	17968	17968	17968	
5°	17135	17209	17252	17264	17290	###
15°	17900	17851	17923	17962	17820	5069
25°	18554	18592	18680	18544	18424	8488
35°	16467	16422	16426	16479	16450	10197
45°	12203	12236	12263	12277	12302	9458
55°	8797	8774	8770	8747	8838	7937
65°	6071	5966	5994	6005	6075	6060
75°	4086	4056	4030	4039	4082	4309
85°	2552	2552	2542	2531	2587	2215
90°	1578	1517	1389	1500	1603	922
95°	1157	1203	1205	1169	1162	912
105°	654	662	656	650	663	684
115°	52	56	57	55	56	90
125°	31	31	30	31	32	27
135°	39	39	39	39	41	30
145°	43	42	42	42	41	26
155°	29	29	28	28	29	14
165°	29	28	28	28	28	8
175°	26	28	26	28	29	3
180°	28	28	28	28	28	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	17968.3	17968.3	17968.3	17968.3	17968.3
2.5°	18012.5	17965.9	18050.7	18080.5	18034.0
5°	17134.6	17208.7	17251.7	17263.6	17289.9
7.5°	17283.9	17208.7	17367.5	17367.5	17244.5
10°	17467.9	17642.2	17619.5	17590.9	17556.2
12.5°	17693.6	17686.4	17684.0	17658.9	17630.3
15°	17900.2	17851.2	17922.9	17962.3	17820.2
17.5°	18031.6	17894.2	17989.8	18056.6	17883.5
20°	18087.7	17945.6	18038.7	18151.0	18073.4
22.5°	18508.1	18418.5	18455.5	18539.1	18452.0
25°	18553.5	18591.7	18680.1	18543.9	18424.5
27.5°	18290.7	18345.7	18380.3	18361.2	18268.0
30°	17961.1	17948.0	17952.7	18019.6	17998.1
32.5°	17366.3	17291.1	17318.6	17243.3	17165.7
35°	16467.0	16421.7	16426.4	16479.0	16450.3
37.5°	15349.2	15279.9	15353.9	15392.2	15327.7
40°	14141.7	14244.4	14160.8	14188.3	14243.2
42.5°	13096.7	13189.9	13146.9	13185.1	13140.9
45°	12203.4	12235.6	12263.1	12277.4	12302.5
47.5°	11373.3	11408.0	11429.5	11445.0	11446.2
50°	10592.3	10579.1	10610.2	10530.2	10653.2
52.5°	9683.4	9597.4	9593.8	9567.6	9706.1
55°	8797.2	8774.5	8769.8	8747.1	8837.8
57.5°	8048.4	8050.8	8062.7	8069.9	8146.3
60°	7370.0	7306.7	7362.9	7346.2	7392.7
62.5°	6708.4	6633.2	6660.6	6659.4	6721.5
65°	6070.6	5965.5	5994.2	6004.9	6075.4
67.5°	5516.5	5460.3	5428.1	5473.5	5524.8
70°	4998.2	4959.9	4934.9	4964.7	5006.5
72.5°	4528.8	4475.0	4476.2	4470.3	4544.3
75°	4085.7	4055.8	4029.6	4039.1	4082.1
77.5°	3611.6	3649.8	3598.4	3617.5	3636.6
80°	3188.8	3231.8	3198.3	3194.8	3238.9
82.5°	2854.4	2858.0	2856.8	2836.5	2850.8
85°	2552.2	2552.2	2541.5	2530.7	2586.9
87.5°	2274.0	2215.4	2203.5	2211.8	2245.3
90°	1577.7	1516.8	1389.0	1500.0	1602.8
92.5°	1299.4	1322.1	1288.7	1288.7	1303.0
95°	1157.3	1202.7	1205.1	1169.2	1162.1
97.5°	1064.1	1092.8	1082.0	1062.9	1073.7
100°	950.7	960.2	950.7	943.5	947.1
102.5°	848.0	846.8	842.0	833.6	856.3
105°	654.5	661.6	655.7	649.7	662.8
107.5°	458.6	452.6	443.1	444.3	450.3
110°	278.3	279.5	262.7	267.5	284.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	126.6	133.8	138.5	131.4	135.0
115°	52.5	56.1	57.3	54.9	56.1
117.5°	27.5	27.5	26.3	27.5	29.9
120°	25.1	26.3	23.9	25.1	27.5
122.5°	27.5	28.7	27.5	28.7	29.9
125°	31.1	31.1	29.9	31.1	32.2
127.5°	33.4	33.4	32.2	33.4	34.6
130°	34.6	35.8	35.8	35.8	35.8
132.5°	37.0	38.2	37.0	38.2	38.2
135°	39.4	39.4	39.4	39.4	40.6
137.5°	41.8	41.8	41.8	41.8	41.8
140°	43.0	43.0	43.0	43.0	43.0
142.5°	44.2	43.0	43.0	43.0	41.8
145°	43.0	41.8	41.8	41.8	40.6
147.5°	39.4	39.4	38.2	39.4	38.2
150°	35.8	34.6	34.6	34.6	34.6
152.5°	31.1	31.1	29.9	31.1	31.1
155°	28.7	28.7	27.5	27.5	28.7
157.5°	28.7	28.7	27.5	27.5	28.7
160°	28.7	28.7	27.5	27.5	27.5
162.5°	28.7	28.7	27.5	27.5	27.5
165°	28.7	27.5	27.5	27.5	27.5
167.5°	28.7	27.5	27.5	27.5	27.5
170°	28.7	27.5	27.5	27.5	27.5
172.5°	27.5	27.5	27.5	27.5	27.5
175°	26.3	27.5	26.3	27.5	28.7
177.5°	26.3	26.3	26.3	27.5	28.7
180°	27.5	27.5	27.5	27.5	27.5

(END OF REPORT)