

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: P381702

Luminaire Tested: **BMK-60-MFL-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: P381702
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-5)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-MFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 56872.7 lumens
Efficiency: N/A
Efficacy: 140.2 lumens/watt
Spacing Criteria (0/90/45): 1.36 / 1.36 / 1.38
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

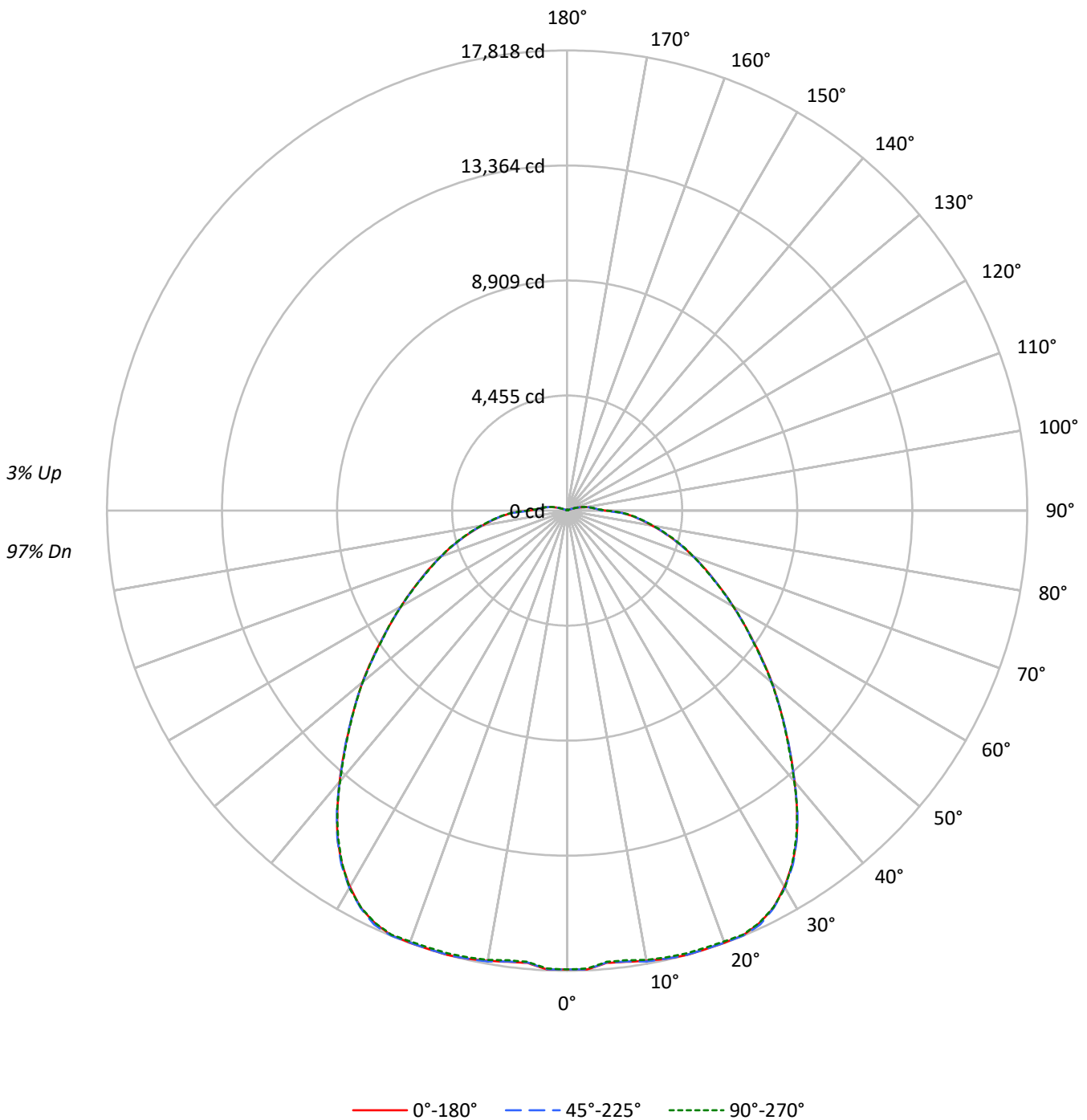
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	97
1	107	101	97	92	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	79	74	82	76	71	78	73	69	75	71	67	65
3	88	77	69	62	85	76	68	61	72	65	60	69	63	58	66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	59	53	49	47
5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	40
6	69	55	46	40	67	54	46	39	52	44	39	50	43	38	48	42	38	35
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	137024	137024	137024
5°	134697	134587	134405
10°	135783	135985	135499
15°	137866	137848	137385
20°	140045	140017	139632
25°	142070	142580	141963
30°	140147	140465	140495
35°	134724	134735	134340
40°	125443	125410	125126
45°	116261	116412	116144
50°	108670	108583	108457
55°	100942	100681	100502
60°	94956	94880	94956
65°	90689	90497	90134
70°	88341	88139	88402
75°	87328	87402	88215
80°	88247	89039	89860
85°	95513	95962	97616



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1683.7	3.0
10°-20°	5039.3	8.9
20°-30°	8097.5	14.2
30°-40°	9640.9	17.0
40°-50°	9235.0	16.2
50°-60°	7879.1	13.9
60°-70°	6197.1	10.9
70°-80°	4497.7	7.9
80°-90°	2748.5	4.8
90°-100°	1159.6	2.0
100°-110°	520.6	0.9
110°-120°	78.8	0.1
120°-130°	23.9	0.0
130°-140°	26.5	0.0
140°-150°	22.5	0.0
150°-160°	12.4	0.0
160°-170°	7.2	0.0
170°-180°	2.4	0.0
0°-30°	14820.5	26.1
0°-40°	24461.4	43.0
0°-60°	41575.5	73.1
0°-90°	55018.8	96.7
90°-120°	1759.0	3.1
90°-150°	1831.9	3.2
90°-180°	1854.0	3.3
0°-180°	56872.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17765	17765	17765	17765	17765	
5°	17579	17543	17565	17585	17541	###
15°	17818	17757	17816	17842	17756	5043
25°	17623	17618	17687	17671	17610	8093
35°	15505	15482	15506	15522	15460	9638
45°	11931	11969	11947	11952	11919	9234
55°	8787	8790	8764	8756	8748	7894
65°	6242	6227	6228	6215	6203	6212
75°	4236	4258	4240	4234	4279	4487
85°	2552	2590	2564	2563	2608	2237
90°	1470	1473	1332	1448	1504	859
95°	1034	1057	1045	1038	1049	792
105°	479	491	487	488	494	514
115°	51	54	54	52	51	76
125°	26	28	26	26	28	24
135°	35	35	35	35	35	26
145°	37	37	37	37	36	23
155°	25	26	25	25	25	13
165°	26	25	25	25	25	7
175°	25	25	25	25	26	2
180°	25	25	25	25	25	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	17765.4	17765.4	17765.4	17765.4	17765.4
2.5°	17784.5	17739.1	17777.3	17790.5	17742.7
5°	17579.1	17543.3	17564.7	17585.1	17540.9
7.5°	17622.1	17565.9	17608.9	17619.7	17556.4
10°	17702.1	17699.7	17728.4	17716.4	17665.1
12.5°	17767.8	17740.3	17771.4	17776.1	17720.0
15°	17817.9	17757.0	17815.6	17841.8	17755.8
17.5°	17802.4	17739.1	17806.0	17841.8	17752.3
20°	17803.6	17728.4	17800.0	17826.3	17751.1
22.5°	17797.6	17752.3	17813.2	17843.0	17774.9
25°	17623.3	17618.5	17686.6	17671.0	17610.1
27.5°	17321.1	17296.0	17335.4	17351.0	17309.2
30°	16820.7	16804.0	16858.9	16888.8	16862.5
32.5°	16233.1	16230.7	16265.3	16239.1	16210.4
35°	15504.6	15481.9	15505.8	15522.5	15460.4
37.5°	14616.0	14618.4	14649.4	14602.9	14626.7
40°	13707.1	13721.5	13703.5	13690.4	13672.5
42.5°	12800.6	12813.8	12801.8	12798.2	12756.4
45°	11931.2	11969.4	11946.7	11951.5	11919.2
47.5°	11121.4	11133.4	11131.0	11113.1	11107.1
50°	10345.1	10336.8	10336.8	10292.6	10324.8
52.5°	9553.3	9555.7	9507.9	9493.6	9530.6
55°	8786.6	8790.1	8763.9	8755.5	8748.3
57.5°	8079.5	8073.6	8079.5	8054.4	8096.2
60°	7428.6	7425.0	7422.7	7401.2	7428.6
62.5°	6821.9	6810.0	6804.0	6792.1	6805.2
65°	6241.5	6227.1	6228.3	6215.2	6203.3
67.5°	5711.2	5700.5	5694.5	5692.1	5680.1
70°	5202.4	5195.3	5190.5	5178.5	5206.0
72.5°	4715.1	4718.7	4702.0	4691.3	4748.6
75°	4236.2	4257.7	4239.8	4233.8	4279.2
77.5°	3775.2	3811.1	3789.6	3787.2	3825.4
80°	3332.1	3373.9	3362.0	3351.2	3393.0
82.5°	2929.6	2976.2	2959.5	2945.2	2982.2
85°	2552.2	2590.5	2564.2	2563.0	2608.4
87.5°	2141.4	2176.0	2119.9	2149.8	2188.0
90°	1470.2	1472.6	1331.7	1447.5	1503.6
92.5°	1186.0	1208.6	1182.4	1188.3	1200.3
95°	1034.3	1057.0	1045.0	1037.9	1048.6
97.5°	898.1	917.2	905.3	904.1	913.6
100°	762.0	775.1	764.4	767.9	775.1
102.5°	627.0	639.0	633.0	635.4	644.9
105°	478.9	490.9	487.3	488.5	494.4
107.5°	340.4	346.4	340.4	342.8	351.1
110°	212.6	218.6	209.0	215.0	225.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	109.9	117.0	119.4	117.0	113.5
115°	51.4	53.7	53.7	52.5	51.4
117.5°	25.1	25.1	23.9	25.1	25.1
120°	21.5	22.7	21.5	21.5	22.7
122.5°	23.9	25.1	23.9	23.9	25.1
125°	26.3	27.5	26.3	26.3	27.5
127.5°	28.7	29.9	28.7	28.7	29.9
130°	31.1	31.1	31.1	31.1	31.1
132.5°	32.2	33.4	32.2	32.2	33.4
135°	34.6	34.6	34.6	34.6	34.6
137.5°	35.8	35.8	35.8	35.8	37.0
140°	37.0	37.0	37.0	37.0	37.0
142.5°	38.2	37.0	37.0	38.2	37.0
145°	37.0	37.0	37.0	37.0	35.8
147.5°	34.6	34.6	34.6	34.6	34.6
150°	31.1	31.1	31.1	31.1	31.1
152.5°	27.5	27.5	27.5	27.5	27.5
155°	25.1	26.3	25.1	25.1	25.1
157.5°	26.3	26.3	25.1	25.1	25.1
160°	26.3	26.3	25.1	25.1	25.1
162.5°	26.3	26.3	25.1	25.1	25.1
165°	26.3	25.1	25.1	25.1	25.1
167.5°	26.3	25.1	25.1	25.1	25.1
170°	26.3	26.3	25.1	25.1	25.1
172.5°	25.1	26.3	25.1	25.1	25.1
175°	25.1	25.1	25.1	25.1	26.3
177.5°	23.9	23.9	25.1	25.1	26.3
180°	25.1	25.1	25.1	25.1	25.1

(END OF REPORT)