

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: P381718

Luminaire Tested: **BMK-60-MCL-UNV-L740-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: P381718
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-L740-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: 63217.9 lumens
Efficiency: N/A
Efficacy: 155.8 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

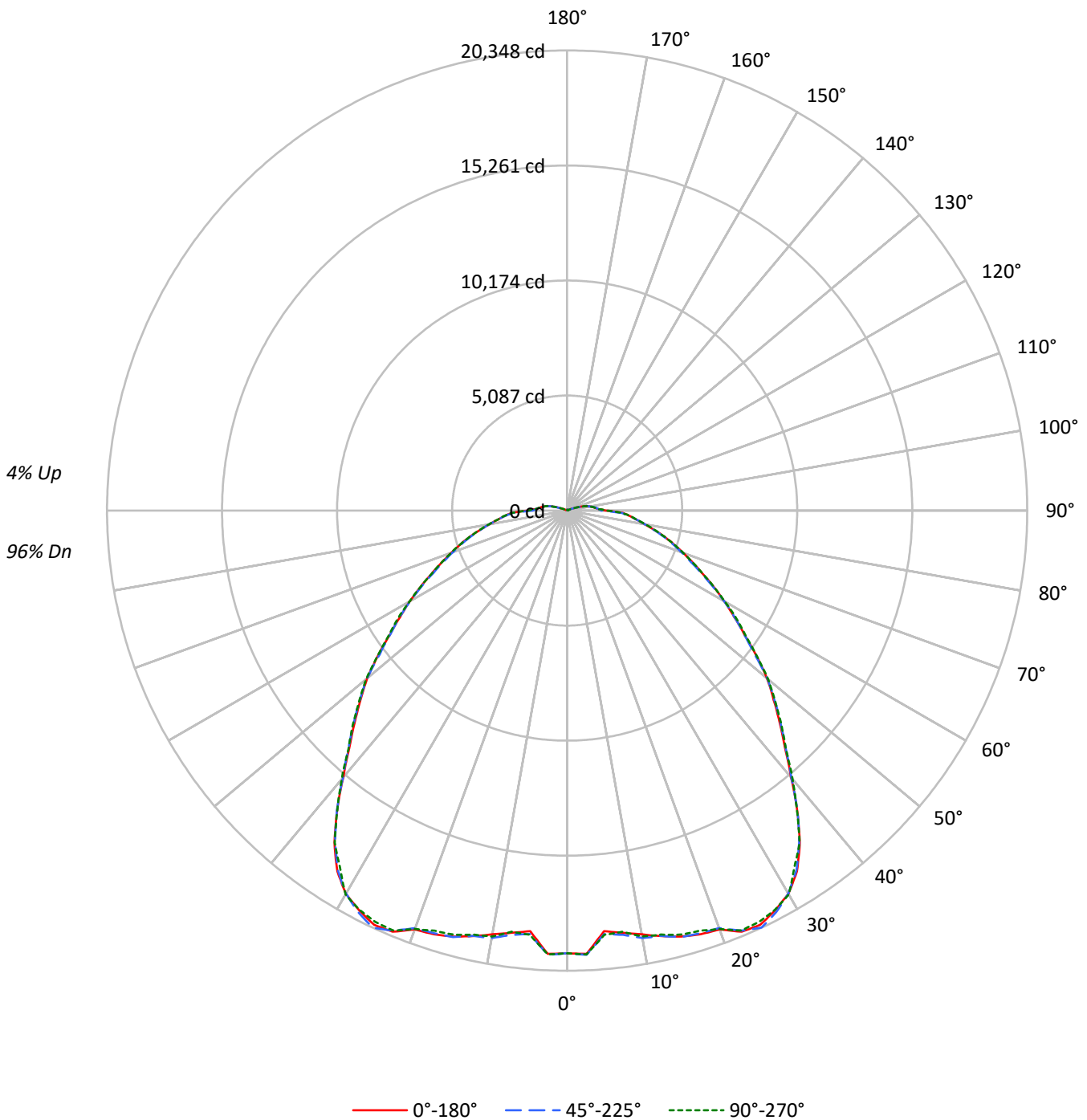
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	150963	150963	150963
5°	143015	143992	144311
10°	145950	147217	146688
15°	150869	151061	150195
20°	154984	154564	154861
25°	162923	164035	161790
30°	163011	162934	163347
35°	155864	155479	155706
40°	140976	141167	141988
45°	129531	130166	130584
50°	121201	121407	121899
55°	110088	109744	110597
60°	102619	102519	102935
65°	96083	94872	96158
70°	92450	91280	92605
75°	91746	90486	91666
80°	91992	92268	93441
85°	104042	103604	105453



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1815.5	2.9
10°-20°	5517.5	8.7
20°-30°	9250.5	14.6
30°-40°	11095.1	17.6
40°-50°	10341.9	16.4
50°-60°	8626.0	13.6
60°-70°	6553.3	10.4
70°-80°	4674.6	7.4
80°-90°	2962.1	4.7
90°-100°	1422.7	2.3
100°-110°	740.7	1.2
110°-120°	100.4	0.2
120°-130°	30.0	0.0
130°-140°	33.3	0.1
140°-150°	27.9	0.0
150°-160°	15.0	0.0
160°-170°	8.6	0.0
170°-180°	2.8	0.0
0°-30°	16583.4	26.2
0°-40°	27678.5	43.8
0°-60°	46646.4	73.8
0°-90°	60836.5	96.2
90°-120°	2263.8	3.6
90°-150°	2355.0	3.7
90°-180°	2381.0	3.8
0°-180°	63217.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	19573	19573	19573	19573	19573	
5°	18665	18745	18792	18805	18834	###
15°	19498	19445	19523	19566	19411	5522
25°	20210	20252	20348	20200	20070	9245
35°	17937	17888	17893	17950	17919	11108
45°	13293	13328	13358	13374	13401	10302
55°	9583	9558	9553	9528	9627	8645
65°	6613	6498	6529	6541	6618	6601
75°	4450	4418	4389	4400	4447	4694
85°	2780	2780	2768	2757	2818	2413
90°	1718	1652	1513	1634	1746	1004
95°	1261	1310	1313	1274	1266	993
105°	713	721	714	708	722	745
115°	57	61	62	60	61	98
125°	34	34	32	34	35	30
135°	43	43	43	43	44	33
145°	47	46	46	46	44	28
155°	31	31	30	30	31	15
165°	31	30	30	30	30	9
175°	29	30	29	30	31	3
180°	30	30	30	30	30	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	19572.7	19572.7	19572.7	19572.7	19572.7
2.5°	19620.8	19570.1	19662.4	19695.0	19644.2
5°	18664.6	18745.3	18792.1	18805.1	18833.7
7.5°	18827.2	18745.3	18918.3	18918.3	18784.3
10°	19027.6	19217.5	19192.8	19161.6	19123.8
12.5°	19273.4	19265.6	19263.0	19235.7	19204.5
15°	19498.5	19445.2	19523.2	19566.2	19411.3
17.5°	19641.6	19492.0	19596.1	19668.9	19480.3
20°	19702.8	19547.9	19649.4	19771.7	19687.1
22.5°	20160.7	20063.1	20103.4	20194.5	20099.5
25°	20210.1	20251.8	20348.0	20199.7	20069.6
27.5°	19923.9	19983.8	20021.5	20000.7	19899.2
30°	19564.9	19550.5	19555.7	19628.6	19605.2
32.5°	18917.0	18835.0	18864.9	18783.0	18698.4
35°	17937.4	17887.9	17893.1	17950.4	17919.2
37.5°	16719.7	16644.2	16724.9	16766.5	16696.3
40°	15404.4	15516.3	15425.3	15455.2	15515.0
42.5°	14266.1	14367.6	14320.8	14362.4	14314.3
45°	13293.0	13328.1	13358.1	13373.7	13401.0
47.5°	12388.9	12426.6	12450.0	12466.9	12468.2
50°	11538.0	11523.7	11557.6	11470.4	11604.4
52.5°	10548.0	10454.4	10450.5	10421.8	10572.7
55°	9582.7	9558.0	9552.8	9528.1	9627.0
57.5°	8767.0	8769.6	8782.7	8790.5	8873.7
60°	8028.1	7959.2	8020.3	8002.1	8052.8
62.5°	7307.4	7225.4	7255.3	7254.0	7321.7
65°	6612.7	6498.2	6529.4	6541.1	6617.9
67.5°	6009.0	5947.9	5912.8	5962.2	6018.2
70°	5444.4	5402.8	5375.5	5408.0	5453.5
72.5°	4933.2	4874.6	4875.9	4869.4	4950.1
75°	4450.5	4418.0	4389.4	4399.8	4446.6
77.5°	3934.0	3975.7	3919.7	3940.6	3961.4
80°	3473.5	3520.3	3483.9	3480.0	3528.2
82.5°	3109.2	3113.2	3111.9	3089.7	3105.3
85°	2780.1	2780.1	2768.4	2756.7	2817.8
87.5°	2477.0	2413.2	2400.2	2409.3	2445.8
90°	1718.5	1652.2	1513.0	1634.0	1745.9
92.5°	1415.4	1440.1	1403.7	1403.7	1419.3
95°	1260.6	1310.0	1312.6	1273.6	1265.8
97.5°	1159.1	1190.4	1178.7	1157.8	1169.5
100°	1035.5	1046.0	1035.5	1027.7	1031.6
102.5°	923.7	922.4	917.2	908.1	932.8
105°	712.9	720.7	714.2	707.7	722.0
107.5°	499.6	493.1	482.6	484.0	490.5
110°	303.1	304.4	286.2	291.4	309.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	137.9	145.7	150.9	143.1	147.0
115°	57.2	61.1	62.4	59.8	61.1
117.5°	29.9	29.9	28.6	29.9	32.5
120°	27.3	28.6	26.0	27.3	29.9
122.5°	29.9	31.2	29.9	31.2	32.5
125°	33.8	33.8	32.5	33.8	35.1
127.5°	36.4	36.4	35.1	36.4	37.7
130°	37.7	39.0	39.0	39.0	39.0
132.5°	40.3	41.6	40.3	41.6	41.6
135°	42.9	42.9	42.9	42.9	44.2
137.5°	45.5	45.5	45.5	45.5	45.5
140°	46.8	46.8	46.8	46.8	46.8
142.5°	48.1	46.8	46.8	46.8	45.5
145°	46.8	45.5	45.5	45.5	44.2
147.5°	42.9	42.9	41.6	42.9	41.6
150°	39.0	37.7	37.7	37.7	37.7
152.5°	33.8	33.8	32.5	33.8	33.8
155°	31.2	31.2	29.9	29.9	31.2
157.5°	31.2	31.2	29.9	29.9	31.2
160°	31.2	31.2	29.9	29.9	29.9
162.5°	31.2	31.2	29.9	29.9	29.9
165°	31.2	29.9	29.9	29.9	29.9
167.5°	31.2	29.9	29.9	29.9	29.9
170°	31.2	29.9	29.9	29.9	29.9
172.5°	29.9	29.9	29.9	29.9	29.9
175°	28.6	29.9	28.6	29.9	31.2
177.5°	28.6	28.6	28.6	29.9	31.2
180°	29.9	29.9	29.9	29.9	29.9

(END OF REPORT)