

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: P381630

Luminaire Tested: **BMK-60-WFL-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: P381630
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-1)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-WFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH WIDE FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 59325.7 lumens
Efficiency: N/A
Efficacy: 146.2 lumens/watt
Spacing Criteria (0/90/45): 1.69 / 1.69 / 1.76
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

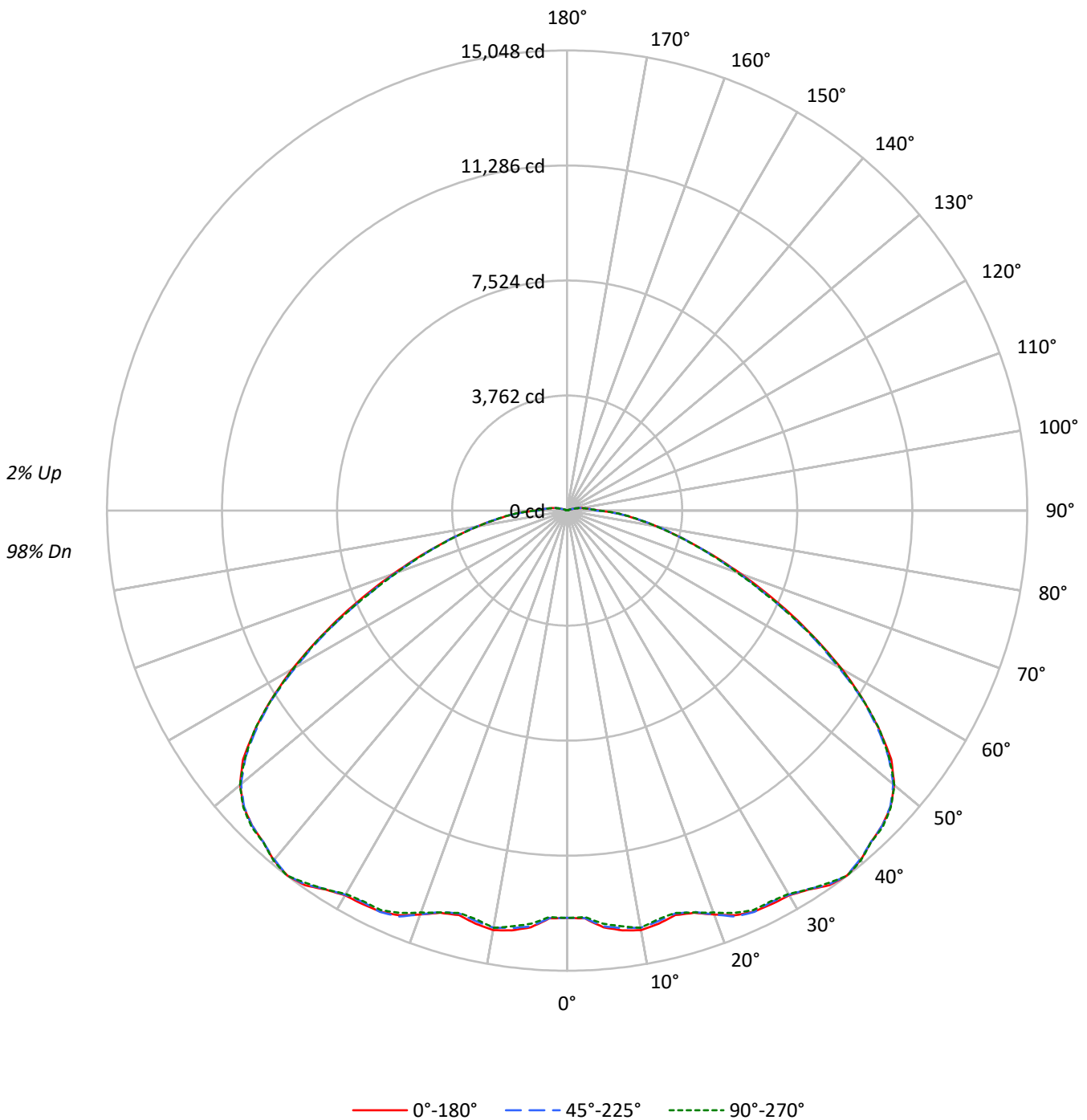
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	107	102	97	93	104	99	95	91	95	91	88	90	87	85	86	84	82	79
2	96	88	80	74	94	85	79	73	81	76	71	78	73	69	74	70	67	65
3	87	76	67	60	85	74	66	59	71	64	58	68	62	57	65	60	56	53
4	79	66	57	50	77	65	56	49	62	55	48	60	53	48	57	51	47	44
5	73	59	49	42	70	58	49	42	55	47	41	53	46	40	51	45	40	38
6	67	52	43	36	64	51	42	36	49	41	35	47	40	35	46	39	34	32
7	61	47	38	31	59	46	37	31	44	37	31	43	36	30	41	35	30	28
8	57	43	34	28	55	42	33	27	40	33	27	39	32	27	38	31	26	24
9	53	39	30	24	51	38	30	24	37	29	24	36	29	24	34	28	24	22
10	49	36	27	22	48	35	27	22	34	27	22	33	26	21	32	26	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	102717	102717	102717
5°	104817	104578	103938
10°	106851	106227	106273
15°	105955	105521	105400
20°	110544	110535	110027
25°	116630	116726	116196
30°	121039	120829	120591
35°	129937	129667	129201
40°	136556	136326	136720
45°	141954	142001	142350
50°	146643	146191	146719
55°	142937	142319	143170
60°	132752	131028	131989
65°	118017	116127	116630
70°	102374	100975	100426
75°	88460	88312	88017
80°	78599	79137	78345
85°	72943	73122	73613



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1306.6	2.2
10°-20°	3907.5	6.6
20°-30°	6658.1	11.2
30°-40°	9330.7	15.7
40°-50°	11232.5	18.9
50°-60°	11000.3	18.5
60°-70°	7973.9	13.4
70°-80°	4593.4	7.7
80°-90°	2151.9	3.6
90°-100°	771.8	1.3
100°-110°	293.3	0.5
110°-120°	41.9	0.1
120°-130°	15.8	0.0
130°-140°	17.5	0.0
140°-150°	15.1	0.0
150°-160°	8.7	0.0
160°-170°	5.1	0.0
170°-180°	1.7	0.0
0°-30°	11872.2	20.0
0°-40°	21202.9	35.7
0°-60°	43435.6	73.2
0°-90°	58154.7	98.0
90°-120°	1107.1	1.9
90°-150°	1155.5	1.9
90°-180°	1171.0	2.0
0°-180°	59325.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	13318	13318	13318	13318	13318	
5°	13679	13615	13648	13636	13565	###
15°	13694	13623	13638	13656	13622	3920
25°	14468	14440	14480	14445	14414	6670
35°	14954	14931	14923	14944	14869	9337
45°	14568	14620	14573	14566	14608	11232
55°	12442	12415	12388	12344	12462	11055
65°	8122	8046	7992	7978	8027	8061
75°	4291	4284	4284	4256	4270	4616
85°	1949	1978	1954	1953	1967	1797
90°	1037	1027	958	1013	1038	603
95°	690	694	692	684	687	521
105°	262	265	270	268	264	291
115°	30	29	29	30	29	43
125°	18	18	18	18	18	16
135°	23	23	23	23	23	18
145°	25	24	25	25	24	15
155°	18	18	18	18	18	9
165°	18	18	18	18	18	5
175°	18	18	18	18	18	2
180°	18	18	18	18	18	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	13317.5	13317.5	13317.5	13317.5	13317.5
2.5°	13350.9	13312.7	13339.0	13354.5	13304.3
5°	13679.4	13614.9	13648.3	13636.4	13564.7
7.5°	13844.2	13761.8	13767.7	13773.7	13710.4
10°	13930.2	13859.7	13848.9	13886.0	13854.9
12.5°	13835.8	13743.8	13755.8	13779.7	13688.9
15°	13693.7	13623.2	13637.6	13655.5	13622.0
17.5°	13791.6	13741.5	13755.8	13778.5	13778.5
20°	14053.2	14009.0	14052.0	14031.7	13987.5
22.5°	14325.5	14296.8	14369.7	14305.2	14244.3
25°	14467.6	14440.1	14479.5	14444.9	14413.8
27.5°	14503.4	14470.0	14435.3	14453.3	14410.3
30°	14527.3	14532.1	14502.2	14521.3	14473.6
32.5°	14695.7	14720.8	14674.2	14736.3	14688.5
35°	14953.7	14931.0	14922.6	14944.1	14868.9
37.5°	15040.8	15006.2	15037.3	15038.5	15048.0
40°	14921.4	14882.0	14896.3	14904.7	14939.3
42.5°	14706.4	14727.9	14706.4	14695.7	14711.2
45°	14567.9	14620.5	14572.7	14565.5	14608.5
47.5°	14347.0	14380.4	14333.8	14330.2	14358.9
50°	13960.0	13913.4	13917.0	13931.3	13967.2
52.5°	13359.3	13284.0	13259.0	13241.1	13274.5
55°	12442.1	12414.6	12388.3	12344.1	12462.4
57.5°	11453.2	11366.0	11410.2	11373.2	11441.3
60°	10385.5	10295.9	10250.6	10261.3	10325.8
62.5°	9228.2	9204.4	9139.9	9147.0	9198.4
65°	8122.3	8045.9	7992.2	7977.8	8026.8
67.5°	7036.7	6938.8	6917.3	6876.7	6885.1
70°	6028.8	5972.6	5946.4	5927.2	5914.1
72.5°	5122.3	5091.2	5070.9	5059.0	5060.2
75°	4291.1	4283.9	4283.9	4256.4	4269.6
77.5°	3586.4	3618.7	3592.4	3570.9	3564.9
80°	2967.8	3004.8	2988.1	2967.8	2958.2
82.5°	2417.2	2457.8	2437.5	2429.2	2420.8
85°	1949.1	1977.7	1953.9	1952.7	1967.0
87.5°	1507.2	1517.9	1484.5	1503.6	1538.2
90°	1036.6	1027.1	957.8	1012.8	1037.8
92.5°	821.7	828.8	815.7	813.3	819.3
95°	690.3	693.9	691.5	684.3	686.7
97.5°	575.6	582.8	579.2	575.6	575.6
100°	468.2	471.7	474.1	469.4	468.2
102.5°	366.6	369.0	367.8	369.0	367.8
105°	261.5	265.1	269.9	267.5	263.9
107.5°	177.9	179.1	177.9	180.3	181.5
110°	111.1	108.7	106.3	109.9	112.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	59.7	58.5	60.9	59.7	57.3
115°	29.9	28.7	28.7	29.9	28.7
117.5°	16.7	16.7	15.5	16.7	16.7
120°	14.3	14.3	14.3	14.3	15.5
122.5°	15.5	16.7	15.5	16.7	16.7
125°	17.9	17.9	17.9	17.9	17.9
127.5°	19.1	19.1	19.1	19.1	19.1
130°	20.3	20.3	20.3	20.3	20.3
132.5°	21.5	21.5	21.5	21.5	21.5
135°	22.7	22.7	22.7	22.7	22.7
137.5°	23.9	23.9	23.9	23.9	23.9
140°	25.1	25.1	25.1	25.1	23.9
142.5°	25.1	25.1	25.1	25.1	23.9
145°	25.1	23.9	25.1	25.1	23.9
147.5°	23.9	22.7	22.7	23.9	22.7
150°	21.5	21.5	21.5	21.5	21.5
152.5°	19.1	19.1	19.1	19.1	19.1
155°	17.9	17.9	17.9	17.9	17.9
157.5°	17.9	17.9	17.9	17.9	17.9
160°	17.9	17.9	17.9	17.9	17.9
162.5°	17.9	17.9	17.9	17.9	17.9
165°	17.9	17.9	17.9	17.9	17.9
167.5°	17.9	17.9	17.9	17.9	17.9
170°	17.9	17.9	17.9	17.9	17.9
172.5°	17.9	17.9	17.9	17.9	17.9
175°	17.9	17.9	17.9	17.9	17.9
177.5°	16.7	17.9	17.9	17.9	17.9
180°	17.9	17.9	17.9	17.9	17.9

(END OF REPORT)