

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: P381632

Luminaire Tested: **BMK-60-WFL-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: P381632
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-L850-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: 60471.5 lumens
Efficiency: N/A
Efficacy: 149.1 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

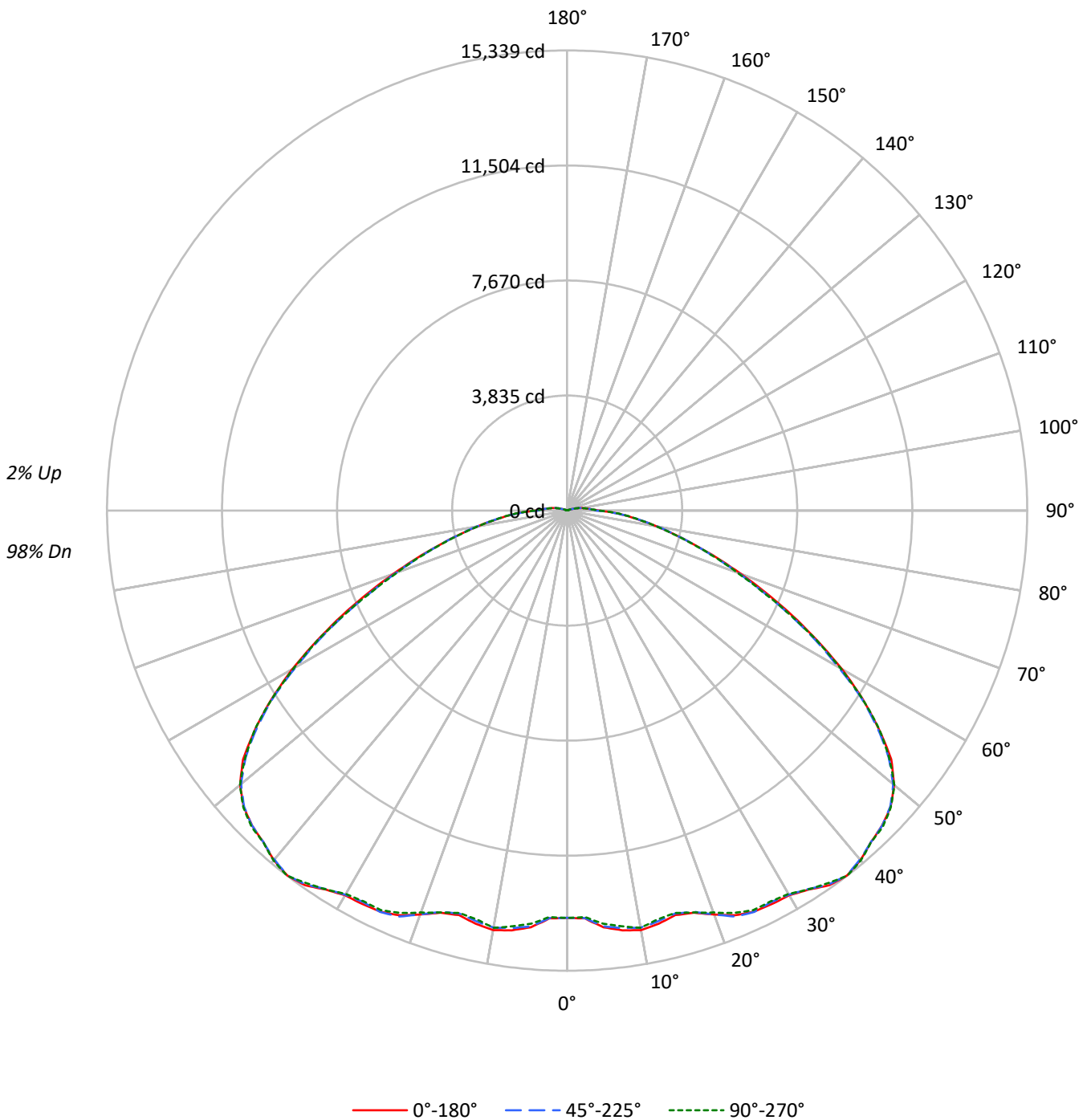
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	104701	104701	104701
5°	106840	106598	105945
10°	108914	108279	108326
15°	108001	107558	107436
20°	112679	112669	112152
25°	118882	118981	118441
30°	123376	123163	122920
35°	132447	132171	131695
40°	139193	138959	139360
45°	144696	144743	145099
50°	149475	149015	149552
55°	145698	145068	145936
60°	135316	133558	134538
65°	120297	118369	118882
70°	104350	102924	102365
75°	90167	90016	89715
80°	80117	80665	79860
85°	74350	74533	75035



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1331.9	2.2
10°-20°	3983.0	6.6
20°-30°	6786.6	11.2
30°-40°	9510.8	15.7
40°-50°	11449.4	18.9
50°-60°	11212.7	18.5
60°-70°	8127.8	13.4
70°-80°	4682.1	7.7
80°-90°	2193.5	3.6
90°-100°	786.7	1.3
100°-110°	299.0	0.5
110°-120°	42.7	0.1
120°-130°	16.1	0.0
130°-140°	17.8	0.0
140°-150°	15.4	0.0
150°-160°	8.9	0.0
160°-170°	5.2	0.0
170°-180°	1.7	0.0
0°-30°	12101.5	20.0
0°-40°	21612.3	35.7
0°-60°	44274.5	73.2
0°-90°	59277.9	98.0
90°-120°	1128.5	1.9
90°-150°	1177.9	1.9
90°-180°	1194.0	2.0
0°-180°	60471.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	13575	13575	13575	13575	13575	
5°	13944	13878	13912	13900	13827	###
15°	13958	13886	13901	13919	13885	3996
25°	14747	14719	14759	14724	14692	6798
35°	15242	15219	15211	15233	15156	9518
45°	14849	14903	14854	14847	14891	11449
55°	12682	12654	12628	12582	12703	11268
65°	8279	8201	8146	8132	8182	8217
75°	4374	4367	4367	4339	4352	4705
85°	1987	2016	1992	1990	2005	1832
90°	1057	1047	976	1032	1058	615
95°	704	707	705	698	700	531
105°	267	270	275	273	269	297
115°	30	29	29	30	29	43
125°	18	18	18	18	18	16
135°	23	23	23	23	23	18
145°	26	24	26	26	24	16
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°	13574.7	13574.7	13574.7	13574.7	13574.7
2.5°	13608.8	13569.8	13596.6	13612.4	13561.3
5°	13943.5	13877.8	13911.9	13899.7	13826.7
7.5°	14111.5	14027.5	14033.6	14039.7	13975.2
10°	14199.2	14127.4	14116.4	14154.1	14122.5
12.5°	14103.0	14009.3	14021.5	14045.8	13953.3
15°	13958.1	13886.3	13900.9	13919.2	13885.1
17.5°	14058.0	14006.8	14021.5	14044.6	14044.6
20°	14324.6	14279.5	14323.4	14302.7	14257.6
22.5°	14602.1	14572.9	14647.2	14581.4	14519.3
25°	14747.0	14719.0	14759.2	14723.9	14692.2
27.5°	14783.5	14749.4	14714.1	14732.4	14688.6
30°	14807.9	14812.7	14782.3	14801.8	14753.1
32.5°	14979.5	15005.1	14957.6	15020.9	14972.2
35°	15242.5	15219.3	15210.8	15232.7	15156.0
37.5°	15331.3	15296.0	15327.7	15328.9	15338.6
40°	15209.6	15169.4	15184.0	15192.5	15227.8
42.5°	14990.5	15012.4	14990.5	14979.5	14995.3
45°	14849.3	14902.8	14854.1	14846.8	14890.6
47.5°	14624.0	14658.1	14610.6	14607.0	14636.2
50°	14229.6	14182.1	14185.8	14200.4	14236.9
52.5°	13617.3	13540.6	13515.0	13496.8	13530.9
55°	12682.4	12654.4	12627.6	12582.5	12703.1
57.5°	11674.4	11585.5	11630.6	11592.8	11662.2
60°	10586.1	10494.8	10448.5	10459.5	10525.2
62.5°	9406.5	9382.1	9316.4	9323.7	9376.0
65°	8279.2	8201.3	8146.5	8131.9	8181.8
67.5°	7172.6	7072.8	7050.9	7009.5	7018.0
70°	6145.2	6088.0	6061.2	6041.7	6028.3
72.5°	5221.2	5189.6	5168.9	5156.7	5157.9
75°	4373.9	4366.6	4366.6	4338.6	4352.0
77.5°	3655.7	3688.6	3661.8	3639.9	3633.8
80°	3025.1	3062.9	3045.8	3025.1	3015.4
82.5°	2463.9	2505.3	2484.6	2476.1	2467.6
85°	1986.7	2015.9	1991.6	1990.4	2005.0
87.5°	1536.3	1547.3	1513.2	1532.6	1567.9
90°	1056.7	1046.9	976.3	1032.3	1057.9
92.5°	837.5	844.8	831.5	829.0	835.1
95°	703.6	707.3	704.8	697.5	700.0
97.5°	586.8	594.1	590.4	586.8	586.8
100°	477.2	480.9	483.3	478.4	477.2
102.5°	373.7	376.2	374.9	376.2	374.9
105°	266.6	270.3	275.1	272.7	269.0
107.5°	181.4	182.6	181.4	183.8	185.0
110°	113.2	110.8	108.3	112.0	114.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	60.9	59.7	62.1	60.9	58.4
115°	30.4	29.2	29.2	30.4	29.2
117.5°	17.0	17.0	15.8	17.0	17.0
120°	14.6	14.6	14.6	14.6	15.8
122.5°	15.8	17.0	15.8	17.0	17.0
125°	18.3	18.3	18.3	18.3	18.3
127.5°	19.5	19.5	19.5	19.5	19.5
130°	20.7	20.7	20.7	20.7	20.7
132.5°	21.9	21.9	21.9	21.9	21.9
135°	23.1	23.1	23.1	23.1	23.1
137.5°	24.3	24.3	24.3	24.3	24.3
140°	25.6	25.6	25.6	25.6	24.3
142.5°	25.6	25.6	25.6	25.6	24.3
145°	25.6	24.3	25.6	25.6	24.3
147.5°	24.3	23.1	23.1	24.3	23.1
150°	21.9	21.9	21.9	21.9	21.9
152.5°	19.5	19.5	19.5	19.5	19.5
155°	18.3	18.3	18.3	18.3	18.3
157.5°	18.3	18.3	18.3	18.3	18.3
160°	18.3	18.3	18.3	18.3	18.3
162.5°	18.3	18.3	18.3	18.3	18.3
165°	18.3	18.3	18.3	18.3	18.3
167.5°	18.3	18.3	18.3	18.3	18.3
170°	18.3	18.3	18.3	18.3	18.3
172.5°	18.3	18.3	18.3	18.3	18.3
175°	18.3	18.3	18.3	18.3	18.3
177.5°	17.0	18.3	18.3	18.3	18.3
180°	18.3	18.3	18.3	18.3	18.3

(END OF REPORT)