

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: P381638

Luminaire Tested: **BMK-70-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: P381638
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-70-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: 71157.0 lumens
Efficiency: N/A
Efficacy: 142.1 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

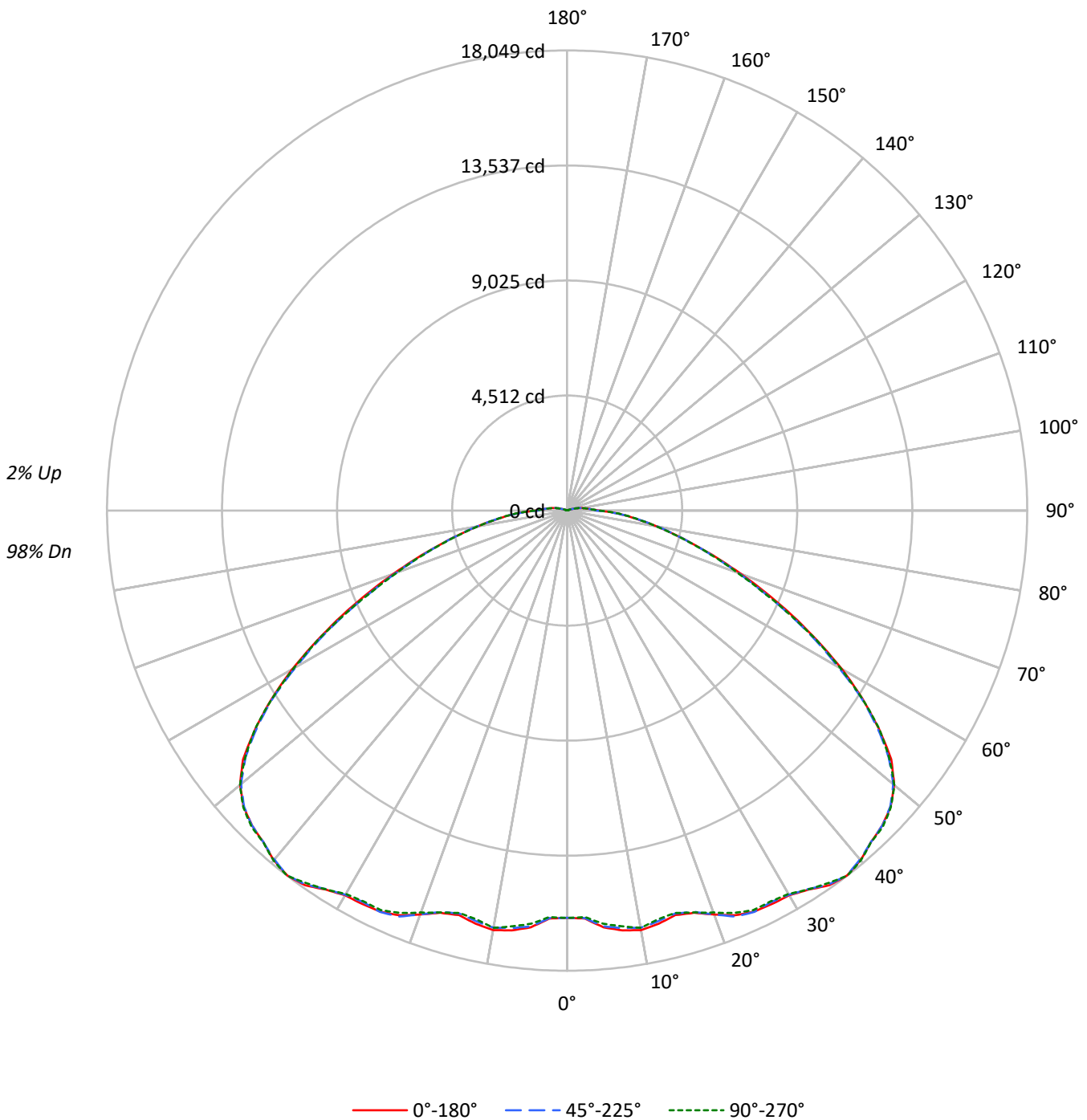
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	123202	123202	123202
5°	125719	125434	124666
10°	128159	127412	127467
15°	127085	126564	126420
20°	132590	132578	131970
25°	139889	140004	139370
30°	145177	144927	144640
35°	155850	155527	154966
40°	163789	163514	163985
45°	170263	170320	170739
50°	175888	175347	175978
55°	171443	170702	171722
60°	159227	157158	158311
65°	141554	139285	139889
70°	122790	121110	120453
75°	106100	105923	105568
80°	94275	94919	93971
85°	87489	87703	88294



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1567.2	2.2
10°-20°	4686.8	6.6
20°-30°	7985.9	11.2
30°-40°	11191.4	15.7
40°-50°	13472.6	18.9
50°-60°	13194.0	18.5
60°-70°	9564.1	13.4
70°-80°	5509.4	7.7
80°-90°	2581.1	3.6
90°-100°	925.8	1.3
100°-110°	351.9	0.5
110°-120°	50.3	0.1
120°-130°	19.0	0.0
130°-140°	21.0	0.0
140°-150°	18.1	0.0
150°-160°	10.4	0.0
160°-170°	6.1	0.0
170°-180°	2.1	0.0
0°-30°	14239.8	20.0
0°-40°	25431.3	35.7
0°-60°	52097.9	73.2
0°-90°	69752.5	98.0
90°-120°	1328.0	1.9
90°-150°	1386.0	1.9
90°-180°	1405.0	2.0
0°-180°	71157.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	15973	15973	15973	15973	15973	
5°	16407	16330	16370	16356	16270	###
15°	16425	16340	16357	16379	16339	4702
25°	17353	17320	17367	17326	17288	8000
35°	17936	17909	17899	17924	17834	11199
45°	17473	17536	17479	17470	17522	13472
55°	14923	14890	14859	14806	14948	13259
65°	9742	9650	9586	9569	9628	9668
75°	5147	5138	5138	5105	5121	5537
85°	2338	2372	2344	2342	2359	2156
90°	1243	1232	1149	1215	1245	724
95°	828	832	829	821	824	625
105°	314	318	324	321	317	349
115°	36	34	34	36	34	51
125°	22	22	22	22	22	19
135°	27	27	27	27	27	21
145°	30	29	30	30	29	18
155°	22	22	22	22	22	10
165°	22	22	22	22	22	6
175°	22	22	22	22	22	2
180°	22	22	22	22	22	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	15973.4	15973.4	15973.4	15973.4	15973.4
2.5°	16013.5	15967.6	15999.1	16017.8	15957.6
5°	16407.4	16330.0	16370.2	16355.8	16269.9
7.5°	16605.1	16506.2	16513.4	16520.6	16444.6
10°	16708.2	16623.7	16610.8	16655.2	16618.0
12.5°	16595.0	16484.7	16499.1	16527.7	16418.9
15°	16424.6	16340.1	16357.3	16378.7	16338.6
17.5°	16542.0	16481.9	16499.1	16526.3	16526.3
20°	16855.8	16802.8	16854.3	16830.0	16777.0
22.5°	17182.4	17148.0	17235.4	17158.0	17085.0
25°	17352.8	17319.9	17367.1	17325.6	17288.4
27.5°	17395.8	17355.7	17314.1	17335.6	17284.1
30°	17424.4	17430.2	17394.4	17417.3	17360.0
32.5°	17626.4	17656.5	17600.6	17675.1	17617.8
35°	17935.8	17908.6	17898.6	17924.4	17834.1
37.5°	18040.4	17998.9	18036.1	18037.5	18049.0
40°	17897.2	17849.9	17867.1	17877.1	17918.6
42.5°	17639.3	17665.1	17639.3	17626.4	17645.0
45°	17473.1	17536.2	17478.9	17470.3	17521.9
47.5°	17208.1	17248.3	17192.4	17188.1	17222.5
50°	16744.0	16688.2	16692.5	16709.6	16752.6
52.5°	16023.5	15933.3	15903.2	15881.7	15921.8
55°	14923.4	14890.4	14858.9	14805.9	14947.7
57.5°	13737.3	13632.7	13685.7	13641.3	13723.0
60°	12456.7	12349.2	12294.8	12307.7	12385.0
62.5°	11068.6	11040.0	10962.6	10971.2	11032.8
65°	9742.2	9650.5	9586.0	9568.8	9627.6
67.5°	8440.1	8322.6	8296.8	8248.1	8258.1
70°	7231.1	7163.7	7132.2	7109.3	7093.5
72.5°	6143.8	6106.6	6082.2	6067.9	6069.3
75°	5146.8	5138.2	5138.2	5105.3	5121.0
77.5°	4301.7	4340.4	4308.8	4283.1	4275.9
80°	3559.7	3604.1	3584.0	3559.7	3548.2
82.5°	2899.3	2948.0	2923.7	2913.6	2903.6
85°	2337.8	2372.2	2343.5	2342.1	2359.3
87.5°	1807.8	1820.7	1780.5	1803.5	1845.0
90°	1243.4	1231.9	1148.8	1214.7	1244.8
92.5°	985.5	994.1	978.4	975.5	982.7
95°	828.0	832.3	829.4	820.8	823.7
97.5°	690.4	699.0	694.7	690.4	690.4
100°	561.5	565.8	568.7	563.0	561.5
102.5°	439.8	442.6	441.2	442.6	441.2
105°	313.7	318.0	323.7	320.9	316.6
107.5°	213.4	214.9	213.4	216.3	217.7
110°	133.2	130.4	127.5	131.8	134.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71.6	70.2	73.1	71.6	68.8
115°	35.8	34.4	34.4	35.8	34.4
117.5°	20.1	20.1	18.6	20.1	20.1
120°	17.2	17.2	17.2	17.2	18.6
122.5°	18.6	20.1	18.6	20.1	20.1
125°	21.5	21.5	21.5	21.5	21.5
127.5°	22.9	22.9	22.9	22.9	22.9
130°	24.4	24.4	24.4	24.4	24.4
132.5°	25.8	25.8	25.8	25.8	25.8
135°	27.2	27.2	27.2	27.2	27.2
137.5°	28.6	28.6	28.6	28.6	28.6
140°	30.1	30.1	30.1	30.1	28.6
142.5°	30.1	30.1	30.1	30.1	28.6
145°	30.1	28.6	30.1	30.1	28.6
147.5°	28.6	27.2	27.2	28.6	27.2
150°	25.8	25.8	25.8	25.8	25.8
152.5°	22.9	22.9	22.9	22.9	22.9
155°	21.5	21.5	21.5	21.5	21.5
157.5°	21.5	21.5	21.5	21.5	21.5
160°	21.5	21.5	21.5	21.5	21.5
162.5°	21.5	21.5	21.5	21.5	21.5
165°	21.5	21.5	21.5	21.5	21.5
167.5°	21.5	21.5	21.5	21.5	21.5
170°	21.5	21.5	21.5	21.5	21.5
172.5°	21.5	21.5	21.5	21.5	21.5
175°	21.5	21.5	21.5	21.5	21.5
177.5°	20.1	21.5	21.5	21.5	21.5
180°	21.5	21.5	21.5	21.5	21.5

(END OF REPORT)