

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: P381692

Luminaire Tested: **BMK-70-NFL-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: P381692
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-4)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 68451.0 lumens
Efficiency: N/A
Efficacy: 136.7 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

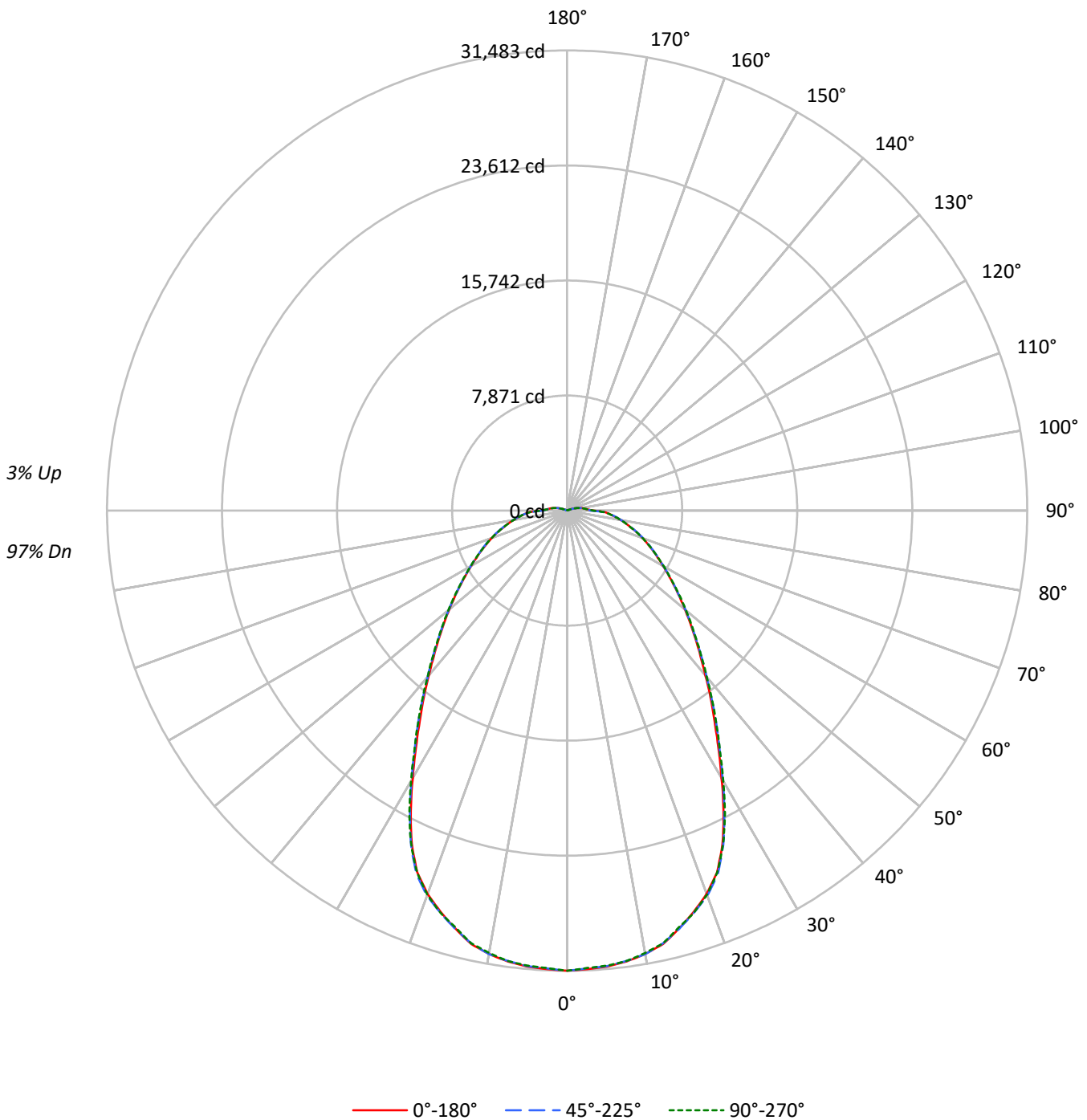
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97				97
1	107	102	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	80				80
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	67				67
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	58				58
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	50				50
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	44				44
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	39				39
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	36				36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32				32
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	29				29
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	27				27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	242827	242827	242827
5°	239994	239654	239424
10°	236226	236336	235710
15°	229013	229191	228426
20°	219524	220549	219952
25°	202747	203740	203497
30°	175983	177237	177821
35°	152604	154495	154595
40°	134649	135763	135999
45°	120923	121775	121956
50°	110449	111005	111397
55°	102459	102903	103101
60°	96772	97303	97595
65°	93954	94559	94204
70°	93333	93795	93236
75°	93700	94673	93789
80°	98600	99474	98412
85°	111452	112148	110917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2970.0	4.3
10°-20°	8328.6	12.2
20°-30°	11470.2	16.8
30°-40°	11123.4	16.3
40°-50°	9679.9	14.1
50°-60°	8052.4	11.8
60°-70°	6463.3	9.4
70°-80°	4851.7	7.1
80°-90°	3168.1	4.6
90°-100°	1431.2	2.1
100°-110°	679.1	1.0
110°-120°	109.0	0.2
120°-130°	30.3	0.0
130°-140°	33.7	0.0
140°-150°	29.3	0.0
150°-160°	17.0	0.0
160°-170°	10.3	0.0
170°-180°	3.5	0.0
0°-30°	22768.9	33.3
0°-40°	33892.2	49.5
0°-60°	51624.6	75.4
0°-90°	66107.8	96.6
90°-120°	2219.3	3.2
90°-150°	2312.5	3.4
90°-180°	2343.0	3.4
0°-180°	68451.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	31483	31483	31483	31483	31483	
5°	31321	31218	31277	31328	31247	###
15°	29598	29499	29621	29642	29522	8326
25°	25150	25149	25273	25315	25243	11433
35°	17562	17620	17780	17780	17791	11043
45°	12410	12461	12497	12516	12516	9624
55°	8919	8936	8957	8979	8974	8018
65°	6466	6485	6508	6511	6483	6429
75°	4545	4571	4592	4572	4550	4839
85°	2978	3004	2997	2958	2964	2584
90°	1818	1759	1613	1730	1769	1055
95°	1301	1305	1301	1274	1282	1000
105°	652	648	643	635	633	688
115°	77	76	76	73	72	112
125°	33	34	33	34	36	29
135°	43	44	43	44	44	33
145°	49	47	47	47	47	30
155°	34	36	34	34	34	17
165°	37	37	36	36	36	10
175°	36	37	36	37	37	4
180°	37	37	37	37	37	



TEST NUMBER: P381692

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	31483.1	31483.1	31483.1	31483.1	31483.1
2.5°	31404.3	31319.8	31351.3	31405.7	31324.0
5°	31321.2	31218.0	31276.8	31328.3	31246.7
7.5°	31116.3	31010.3	31083.4	31166.5	31083.4
10°	30796.9	30700.9	30811.2	30821.2	30729.6
12.5°	30367.2	30261.1	30321.3	30358.6	30324.2
15°	29597.9	29499.1	29620.8	29642.3	29522.0
17.5°	28785.7	28751.3	28841.6	28893.1	28847.3
20°	27907.6	27931.9	28037.9	28049.4	27962.0
22.5°	26787.4	26767.3	26920.6	26902.0	26823.2
25°	25150.1	25148.6	25273.3	25314.8	25243.2
27.5°	23167.5	23120.2	23299.3	23299.3	23386.7
30°	21121.9	21093.3	21272.3	21283.8	21342.5
32.5°	19239.6	19288.3	19425.9	19455.9	19451.7
35°	17562.2	17619.5	17779.9	17779.9	17791.4
37.5°	16095.3	16139.8	16235.7	16285.9	16264.4
40°	14713.0	14771.7	14834.8	14892.1	14860.6
42.5°	13492.5	13528.3	13624.3	13663.0	13622.9
45°	12409.6	12461.1	12497.0	12515.6	12515.6
47.5°	11421.2	11429.8	11492.8	11494.2	11514.3
50°	10514.4	10491.5	10567.4	10545.9	10604.7
52.5°	9683.6	9687.9	9719.4	9732.3	9772.4
55°	8918.6	8935.8	8957.3	8978.8	8974.5
57.5°	8215.3	8242.5	8272.6	8288.3	8264.0
60°	7570.7	7620.8	7612.2	7649.4	7635.1
62.5°	6993.4	7040.6	7044.9	7063.6	7043.5
65°	6466.2	6484.8	6507.8	6510.6	6483.4
67.5°	5967.7	5984.9	6017.9	6010.7	5974.9
70°	5496.4	5503.6	5523.6	5526.5	5490.7
72.5°	5028.0	5032.3	5046.6	5043.8	5019.4
75°	4545.3	4571.0	4592.5	4572.5	4549.6
77.5°	4139.9	4142.7	4158.5	4128.4	4132.7
80°	3723.0	3740.2	3756.0	3710.1	3715.9
82.5°	3350.6	3369.2	3379.2	3323.4	3330.5
85°	2978.1	3003.9	2996.7	2958.1	2963.8
87.5°	2602.8	2574.2	2554.1	2538.4	2545.5
90°	1817.8	1759.1	1613.0	1730.4	1769.1
92.5°	1458.3	1479.8	1459.7	1436.8	1458.3
95°	1300.7	1305.0	1300.7	1273.5	1282.1
97.5°	1147.4	1158.9	1147.4	1120.2	1130.2
100°	985.5	988.4	981.2	964.1	971.2
102.5°	823.7	826.5	816.5	805.1	807.9
105°	651.8	647.5	643.2	634.6	633.2
107.5°	469.9	469.9	462.7	454.1	459.8
110°	308.0	303.7	287.9	290.8	293.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	163.3	164.7	167.6	159.0	153.3
115°	77.4	75.9	75.9	73.1	71.6
117.5°	34.4	34.4	31.5	32.9	34.4
120°	27.2	28.6	27.2	27.2	30.1
122.5°	30.1	31.5	30.1	31.5	32.9
125°	32.9	34.4	32.9	34.4	35.8
127.5°	35.8	37.2	35.8	37.2	37.2
130°	38.7	40.1	38.7	38.7	40.1
132.5°	40.1	41.5	41.5	41.5	41.5
135°	43.0	44.4	43.0	44.4	44.4
137.5°	45.8	45.8	45.8	45.8	45.8
140°	47.3	47.3	47.3	47.3	47.3
142.5°	48.7	48.7	48.7	48.7	47.3
145°	48.7	47.3	47.3	47.3	47.3
147.5°	45.8	45.8	45.8	45.8	44.4
150°	41.5	41.5	41.5	41.5	41.5
152.5°	37.2	38.7	37.2	37.2	37.2
155°	34.4	35.8	34.4	34.4	34.4
157.5°	35.8	35.8	34.4	34.4	35.8
160°	35.8	35.8	35.8	35.8	35.8
162.5°	37.2	37.2	35.8	35.8	35.8
165°	37.2	37.2	35.8	35.8	35.8
167.5°	37.2	37.2	35.8	35.8	35.8
170°	37.2	37.2	35.8	35.8	35.8
172.5°	37.2	37.2	37.2	37.2	37.2
175°	35.8	37.2	35.8	37.2	37.2
177.5°	35.8	35.8	35.8	37.2	38.7
180°	37.2	37.2	37.2	37.2	37.2

(END OF REPORT)