

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: P381644

Luminaire Tested: **BMK-50-WCL-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: P381644  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-2)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-50-WCL-UNV-L850-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH WIDE CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 51591.4 lumens  
Efficiency: N/A  
Efficacy: 155.2 lumens/watt  
Spacing Criteria (0/90/45): 1.76 / 1.77 / 1.85  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

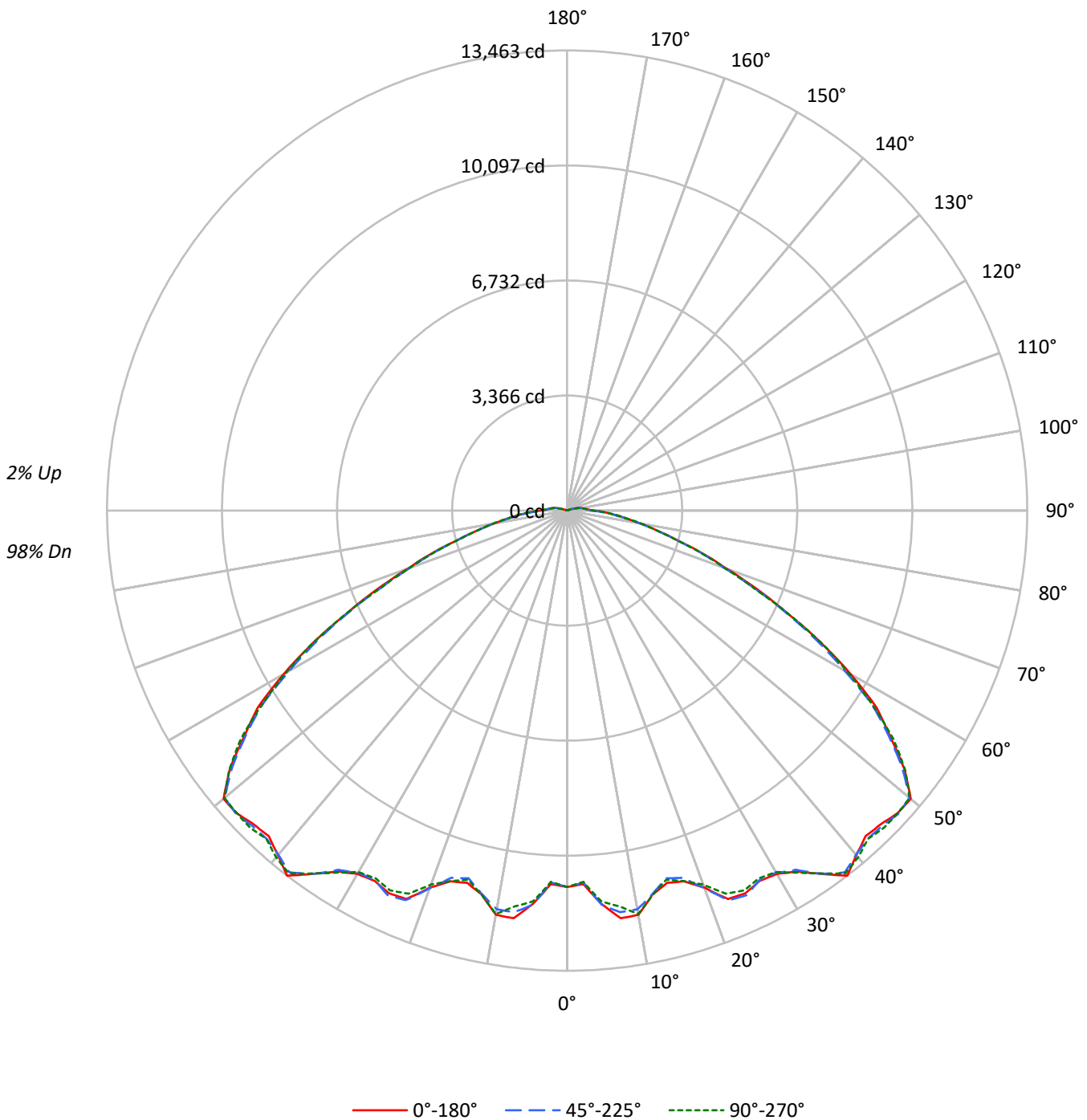
Input Watts (W): 332.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	93	104	100	95	92	95	92	88	91	88	85	87	85	82	80
2	97	88	81	74	94	86	79	73	82	76	71	78	74	69	75	71	68	65
3	88	76	68	61	85	74	66	60	71	64	59	68	62	57	65	60	56	54
4	80	67	57	50	77	65	56	50	62	55	49	60	53	48	57	52	47	45
5	73	59	49	42	70	58	49	42	55	47	41	53	46	41	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	36	31	43	36	30	41	35	30	28
8	57	43	34	27	55	42	33	27	40	32	27	39	32	27	37	31	26	24
9	53	39	30	24	51	38	30	24	37	29	24	35	29	24	34	28	23	21
10	49	35	27	22	48	35	27	22	34	26	21	33	26	21	32	25	21	19

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	84912	84912	84912
5°	88515	88666	87969
10°	92116	90865	91910
15°	87259	86196	86531
20°	92339	92485	91576
25°	99558	100107	98826
30°	102269	101934	101719
35°	112747	112766	112604
40°	120438	120305	121194
45°	126436	127041	127825
50°	137840	137341	137428
55°	132628	131952	133933
60°	122593	120045	121445
65°	103311	102771	103476
70°	84031	82752	83225
75°	68243	68159	67839
80°	57603	57438	58503
85°	51690	49871	52962



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1110.6	2.2
10°-20°	3246.6	6.3
20°-30°	5657.0	11.0
30°-40°	8119.1	15.7
40°-50°	10123.2	19.6
50°-60°	10234.5	19.8
60°-70°	7039.3	13.6
70°-80°	3580.7	6.9
80°-90°	1525.6	3.0
90°-100°	609.9	1.2
100°-110°	261.5	0.5
110°-120°	29.4	0.1
120°-130°	13.7	0.0
130°-140°	15.1	0.0
140°-150°	12.7	0.0
150°-160°	7.1	0.0
160°-170°	4.1	0.0
170°-180°	1.4	0.0
0°-30°	10014.2	19.4
0°-40°	18133.3	35.1
0°-60°	38490.9	74.6
0°-90°	50636.6	98.1
90°-120°	900.9	1.7
90°-150°	942.3	1.8
90°-180°	955.0	1.9
0°-180°	51591.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11009	11009	11009	11009	11009	
5°	11552	11508	11572	11543	11481	###
15°	11277	11247	11140	11218	11183	3259
25°	12350	12368	12418	12441	12259	5658
35°	12975	12999	12978	12989	12959	8131
45°	12975	13016	13037	13031	13118	10098
55°	11545	11483	11486	11460	11658	10305
65°	7110	7096	7073	7083	7122	7112
75°	3310	3277	3306	3276	3291	3612
85°	1381	1360	1333	1366	1415	1292
90°	777	742	694	740	779	448
95°	538	547	562	540	544	419
105°	236	245	244	242	240	260
115°	19	19	19	18	19	29
125°	16	16	16	16	16	13
135°	20	20	20	20	20	15
145°	21	21	21	21	21	13
155°	14	14	14	14	14	7
165°	16	14	14	14	14	4
175°	14	14	14	14	14	1
180°	14	14	14	14	14	



TEST NUMBER: P381644

CATALOG NUMBER: BMK-50-WCL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	11009.0	11009.0	11009.0	11009.0	11009.0
2.5°	10937.8	10858.3	10890.3	10915.0	10873.8
5°	11551.9	11507.6	11571.6	11542.7	11480.7
7.5°	12028.8	11843.0	11851.3	11805.9	11676.8
10°	12009.2	11865.8	11846.1	11955.6	11982.4
12.5°	11513.8	11470.4	11498.3	11542.7	11527.2
15°	11277.4	11247.4	11140.1	11217.5	11183.4
17.5°	11372.3	11290.8	11261.9	11385.8	11364.1
20°	11738.8	11696.5	11757.4	11766.7	11641.8
22.5°	12299.3	12244.6	12338.5	12236.3	12132.1
25°	12349.9	12368.5	12418.0	12440.7	12259.0
27.5°	12208.5	12242.5	12187.8	12278.7	12130.0
30°	12274.5	12283.8	12234.3	12264.2	12208.5
32.5°	12515.0	12513.0	12463.4	12585.2	12561.5
35°	12975.4	12999.2	12977.5	12988.8	12958.9
37.5°	13462.6	13335.7	13345.0	13357.4	13377.0
40°	13160.2	13203.6	13145.7	13251.0	13242.8
42.5°	12920.7	13061.1	13017.7	13008.5	13026.0
45°	12975.4	13015.7	13037.4	13031.2	13117.9
47.5°	13109.6	13129.2	13139.6	13071.4	13108.6
50°	13122.0	13015.7	13074.5	13018.8	13082.8
52.5°	12443.8	12411.8	12355.0	12494.4	12460.3
55°	11544.7	11482.8	11485.9	11460.1	11658.3
57.5°	10732.3	10530.0	10586.8	10567.2	10602.3
60°	9590.7	9382.1	9391.4	9434.8	9500.9
62.5°	8380.9	8366.4	8249.8	8342.7	8395.3
65°	7110.2	7095.7	7073.0	7083.3	7121.5
67.5°	6018.0	5856.0	5889.0	5865.3	5904.5
70°	4948.6	4883.6	4873.3	4878.4	4901.1
72.5°	4144.5	4076.4	4084.6	4057.8	4094.9
75°	3310.4	3277.4	3306.3	3276.4	3290.8
77.5°	2682.8	2670.4	2677.7	2660.1	2679.7
80°	2175.0	2166.7	2168.8	2170.8	2209.0
82.5°	1736.2	1727.0	1695.0	1731.1	1746.6
85°	1381.2	1359.5	1332.6	1365.7	1415.2
87.5°	1088.0	1045.7	1026.1	1060.1	1093.2
90°	777.3	742.2	693.7	740.1	779.4
92.5°	627.6	635.9	614.2	623.5	642.1
95°	537.8	547.1	561.5	539.9	544.0
97.5°	483.1	484.1	484.1	483.1	485.2
100°	409.8	413.9	416.0	415.0	411.9
102.5°	341.7	344.8	336.5	339.6	337.5
105°	236.4	244.6	243.6	241.5	239.5
107.5°	153.8	153.8	150.7	153.8	160.0
110°	83.6	81.5	79.5	82.6	85.7



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CATALOG NUMBER: BMK-50-WCL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	38.2	39.2	40.3	38.2	38.2
115°	18.6	18.6	18.6	17.5	18.6
117.5°	12.4	12.4	12.4	12.4	12.4
120°	12.4	12.4	12.4	12.4	13.4
122.5°	13.4	14.5	13.4	14.5	14.5
125°	15.5	15.5	15.5	15.5	15.5
127.5°	16.5	16.5	16.5	16.5	16.5
130°	17.5	17.5	17.5	17.5	17.5
132.5°	18.6	18.6	18.6	18.6	18.6
135°	19.6	19.6	19.6	19.6	19.6
137.5°	20.6	20.6	20.6	20.6	20.6
140°	21.7	20.6	20.6	21.7	20.6
142.5°	21.7	20.6	20.6	21.7	20.6
145°	20.6	20.6	20.6	20.6	20.6
147.5°	19.6	19.6	19.6	19.6	18.6
150°	17.5	17.5	17.5	17.5	17.5
152.5°	16.5	15.5	15.5	15.5	15.5
155°	14.5	14.5	14.5	14.5	14.5
157.5°	14.5	14.5	14.5	14.5	14.5
160°	15.5	14.5	14.5	14.5	14.5
162.5°	15.5	14.5	14.5	14.5	14.5
165°	15.5	14.5	14.5	14.5	14.5
167.5°	15.5	14.5	14.5	14.5	14.5
170°	15.5	14.5	14.5	14.5	14.5
172.5°	14.5	14.5	14.5	14.5	14.5
175°	14.5	14.5	14.5	14.5	14.5
177.5°	14.5	14.5	14.5	14.5	15.5
180°	14.5	14.5	14.5	14.5	14.5

(END OF REPORT)