

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: P381643

Luminaire Tested: **BMK-50-WCL-UNV-L840-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: P381643
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-L840-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: 51333.3 lumens
Efficiency: N/A
Efficacy: 154.4 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

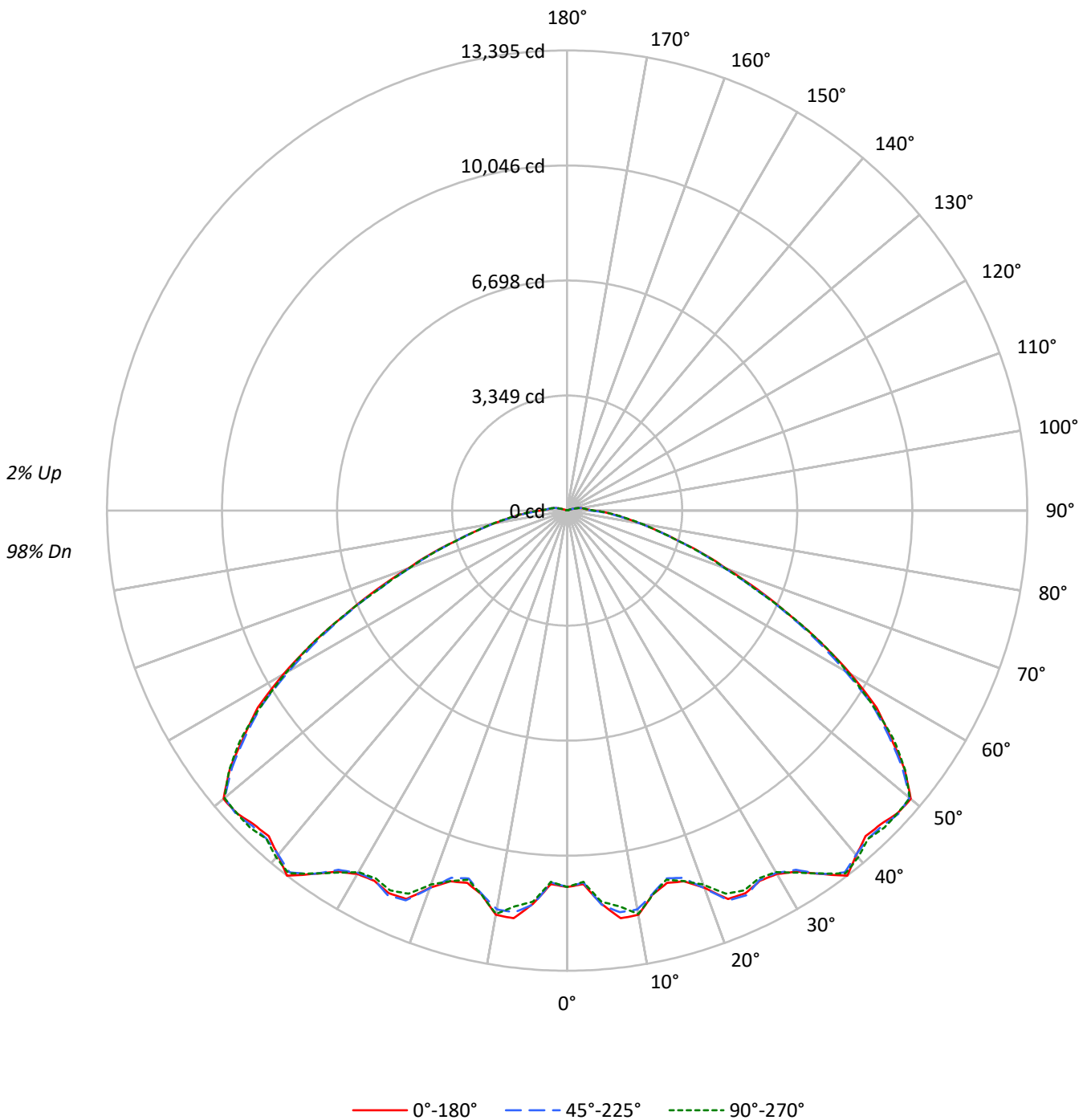
Input Watts (W): 332.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	84487	84487	84487
5°	88072	88222	87529
10°	91655	90411	91450
15°	86822	85765	86099
20°	91877	92022	91117
25°	99060	99607	98331
30°	101757	101424	101210
35°	112183	112202	112041
40°	119836	119704	120587
45°	125804	126404	127185
50°	137151	136654	136740
55°	131965	131292	133262
60°	121979	119446	120837
65°	102794	102257	102958
70°	83612	82338	82809
75°	67903	67818	67501
80°	57314	57150	58212
85°	51428	49624	52696



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1105.0	2.2
10°-20°	3230.3	6.3
20°-30°	5628.7	11.0
30°-40°	8078.5	15.7
40°-50°	10072.5	19.6
50°-60°	10183.3	19.8
60°-70°	7004.1	13.6
70°-80°	3562.8	6.9
80°-90°	1518.0	3.0
90°-100°	606.9	1.2
100°-110°	260.2	0.5
110°-120°	29.3	0.1
120°-130°	13.6	0.0
130°-140°	15.0	0.0
140°-150°	12.6	0.0
150°-160°	7.0	0.0
160°-170°	4.1	0.0
170°-180°	1.4	0.0
0°-30°	9964.1	19.4
0°-40°	18042.5	35.1
0°-60°	38298.3	74.6
0°-90°	50383.2	98.1
90°-120°	896.4	1.7
90°-150°	937.6	1.8
90°-180°	950.0	1.9
0°-180°	51333.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	10954	10954	10954	10954	10954	
5°	11494	11450	11514	11485	11423	###
15°	11221	11191	11084	11161	11128	3242
25°	12288	12307	12356	12378	12198	5629
35°	12910	12934	12913	12924	12894	8090
45°	12910	12951	12972	12966	13052	10047
55°	11487	11425	11428	11403	11600	10253
65°	7075	7060	7038	7048	7086	7076
75°	3294	3261	3290	3260	3274	3594
85°	1374	1353	1326	1359	1408	1286
90°	773	738	690	736	776	446
95°	535	544	559	537	541	417
105°	235	243	242	240	238	259
115°	18	18	18	18	18	29
125°	15	15	15	15	15	13
135°	20	20	20	20	20	15
145°	20	20	20	20	20	13
155°	14	14	14	14	14	7
165°	15	14	14	14	14	4
175°	14	14	14	14	14	1
180°	14	14	14	14	14	



TEST NUMBER: P381643

CATALOG NUMBER: BMK-50-WCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	10953.9	10953.9	10953.9	10953.9	10953.9
2.5°	10883.0	10803.9	10835.8	10860.4	10819.4
5°	11494.1	11450.0	11513.7	11484.9	11423.3
7.5°	11968.7	11783.8	11792.0	11746.8	11618.4
10°	11949.1	11806.4	11786.9	11895.7	11922.4
12.5°	11456.1	11413.0	11440.7	11484.9	11469.5
15°	11220.9	11191.2	11084.3	11161.4	11127.5
17.5°	11315.4	11234.3	11205.5	11328.8	11307.2
20°	11680.1	11637.9	11698.5	11707.8	11583.5
22.5°	12237.8	12183.3	12276.8	12175.1	12071.4
25°	12288.1	12306.6	12355.9	12378.5	12197.7
27.5°	12147.4	12181.3	12126.8	12217.2	12069.3
30°	12213.1	12222.4	12173.1	12202.8	12147.4
32.5°	12452.4	12450.4	12401.1	12522.3	12498.6
35°	12910.5	12934.1	12912.6	12923.9	12894.1
37.5°	13395.3	13269.0	13278.2	13290.5	13310.0
40°	13094.4	13137.5	13080.0	13184.7	13176.5
42.5°	12856.1	12995.8	12952.6	12943.4	12960.8
45°	12910.5	12950.6	12972.1	12966.0	13052.2
47.5°	13044.0	13063.5	13073.8	13006.0	13043.0
50°	13056.4	12950.6	13009.1	12953.6	13017.3
52.5°	12381.6	12349.7	12293.2	12431.9	12398.0
55°	11487.0	11425.3	11428.4	11402.7	11599.9
57.5°	10678.6	10477.3	10533.8	10514.3	10549.2
60°	9542.7	9335.2	9344.5	9387.6	9453.3
62.5°	8338.9	8324.6	8208.5	8300.9	8353.3
65°	7074.6	7060.2	7037.6	7047.9	7085.9
67.5°	5987.9	5826.7	5859.5	5835.9	5874.9
70°	4923.9	4859.2	4848.9	4854.0	4876.6
72.5°	4123.8	4056.0	4064.2	4037.5	4074.5
75°	3293.9	3261.0	3289.8	3260.0	3274.4
77.5°	2669.4	2657.1	2664.3	2646.8	2666.3
80°	2164.1	2155.9	2157.9	2160.0	2198.0
82.5°	1727.6	1718.3	1686.5	1722.4	1737.8
85°	1374.2	1352.7	1326.0	1358.8	1408.1
87.5°	1082.6	1040.4	1020.9	1054.8	1087.7
90°	773.4	738.5	690.2	736.4	775.5
92.5°	624.5	632.7	611.1	620.4	638.8
95°	535.1	544.4	558.7	537.2	541.3
97.5°	480.7	481.7	481.7	480.7	482.7
100°	407.8	411.9	413.9	412.9	409.8
102.5°	340.0	343.0	334.8	337.9	335.9
105°	235.2	243.4	242.4	240.3	238.3
107.5°	153.0	153.0	150.0	153.0	159.2
110°	83.2	81.1	79.1	82.2	85.2



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CATALOG NUMBER: BMK-50-WCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	38.0	39.0	40.1	38.0	38.0
115°	18.5	18.5	18.5	17.5	18.5
117.5°	12.3	12.3	12.3	12.3	12.3
120°	12.3	12.3	12.3	12.3	13.4
122.5°	13.4	14.4	13.4	14.4	14.4
125°	15.4	15.4	15.4	15.4	15.4
127.5°	16.4	16.4	16.4	16.4	16.4
130°	17.5	17.5	17.5	17.5	17.5
132.5°	18.5	18.5	18.5	18.5	18.5
135°	19.5	19.5	19.5	19.5	19.5
137.5°	20.5	20.5	20.5	20.5	20.5
140°	21.6	20.5	20.5	21.6	20.5
142.5°	21.6	20.5	20.5	21.6	20.5
145°	20.5	20.5	20.5	20.5	20.5
147.5°	19.5	19.5	19.5	19.5	18.5
150°	17.5	17.5	17.5	17.5	17.5
152.5°	16.4	15.4	15.4	15.4	15.4
155°	14.4	14.4	14.4	14.4	14.4
157.5°	14.4	14.4	14.4	14.4	14.4
160°	15.4	14.4	14.4	14.4	14.4
162.5°	15.4	14.4	14.4	14.4	14.4
165°	15.4	14.4	14.4	14.4	14.4
167.5°	15.4	14.4	14.4	14.4	14.4
170°	15.4	14.4	14.4	14.4	14.4
172.5°	14.4	14.4	14.4	14.4	14.4
175°	14.4	14.4	14.4	14.4	14.4
177.5°	14.4	14.4	14.4	14.4	15.4
180°	14.4	14.4	14.4	14.4	14.4

(END OF REPORT)