

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: P381650

Luminaire Tested: **BMK-60-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: P381650  
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-60-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: 60844.0 lumens  
Efficiency: N/A  
Efficacy: 150.0 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

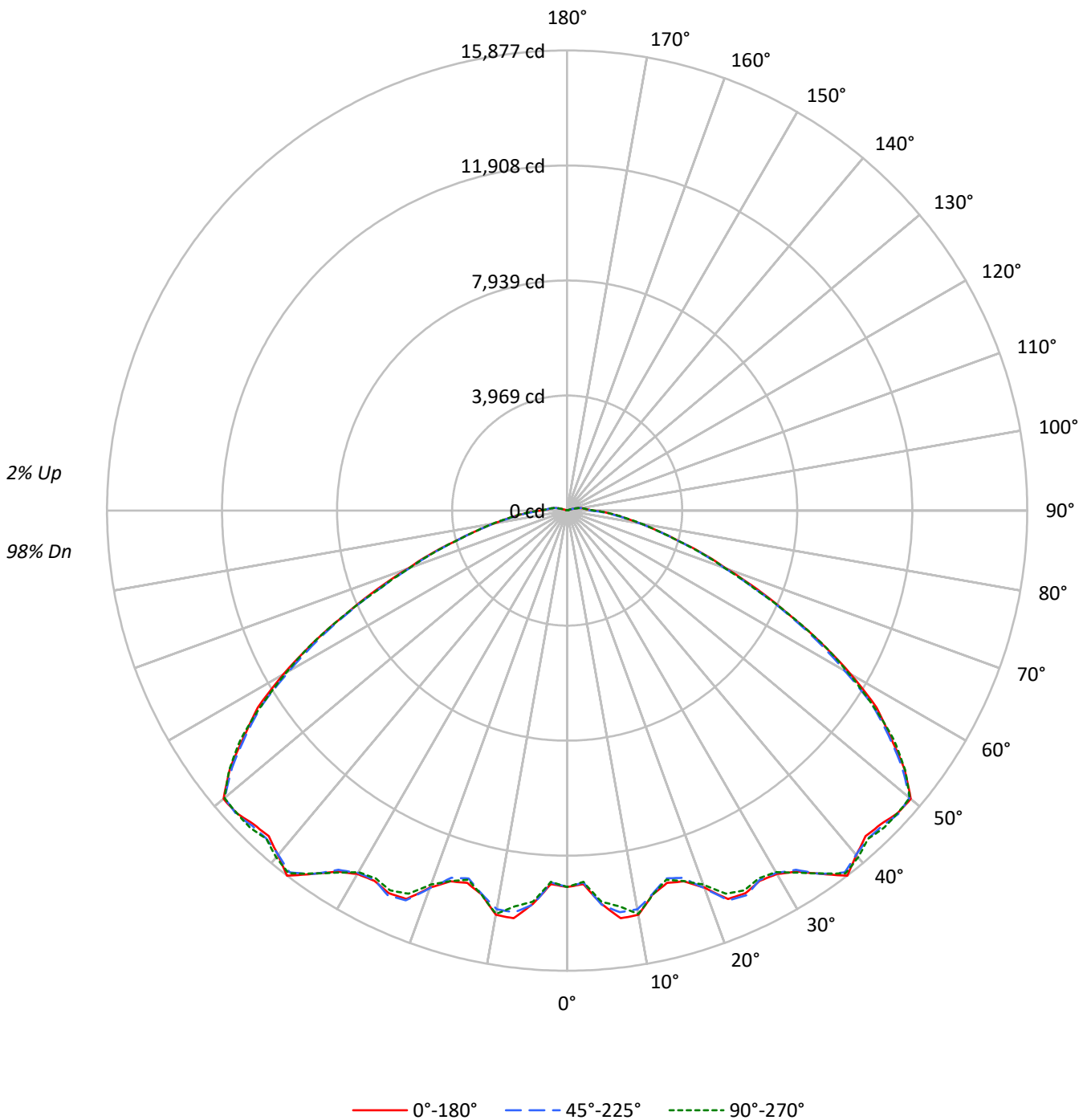
Input Watts (W): 405.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	100140	100140	100140
5°	104390	104568	103746
10°	108636	107161	108394
15°	102908	101655	102050
20°	108899	109071	107999
25°	117414	118061	116549
30°	120610	120215	119961
35°	132968	132989	132799
40°	142038	141882	142929
45°	149112	149824	150749
50°	162562	161973	162075
55°	156414	155617	157952
60°	144579	141575	143225
65°	121839	121202	122033
70°	99102	97594	98151
75°	80482	80383	80006
80°	67931	67738	68996
85°	60960	58815	62460



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1309.8	2.2
10°-20°	3828.8	6.3
20°-30°	6671.6	11.0
30°-40°	9575.2	15.7
40°-50°	11938.7	19.6
50°-60°	12070.0	19.8
60°-70°	8301.8	13.6
70°-80°	4222.9	6.9
80°-90°	1799.2	3.0
90°-100°	719.3	1.2
100°-110°	308.5	0.5
110°-120°	34.7	0.1
120°-130°	16.1	0.0
130°-140°	17.8	0.0
140°-150°	14.9	0.0
150°-160°	8.3	0.0
160°-170°	4.9	0.0
170°-180°	1.6	0.0
0°-30°	11810.1	19.4
0°-40°	21385.3	35.1
0°-60°	45394.1	74.6
0°-90°	59718.0	98.1
90°-120°	1062.5	1.7
90°-150°	1111.3	1.8
90°-180°	1126.0	1.9
0°-180°	60844.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12983	12983	12983	12983	12983	
5°	13624	13571	13647	13613	13540	###
15°	13300	13265	13138	13229	13189	3843
25°	14565	14587	14645	14672	14458	6672
35°	15302	15330	15305	15318	15283	9589
45°	15302	15350	15376	15368	15470	11909
55°	13615	13542	13546	13515	13749	12153
65°	8385	8368	8342	8354	8399	8387
75°	3904	3865	3899	3864	3881	4260
85°	1629	1603	1572	1611	1669	1524
90°	917	875	818	873	919	529
95°	634	645	662	637	642	495
105°	279	288	287	285	282	307
115°	22	22	22	21	22	35
125°	18	18	18	18	18	16
135°	23	23	23	23	23	18
145°	24	24	24	24	24	15
155°	17	17	17	17	17	8
165°	18	17	17	17	17	5
175°	17	17	17	17	17	2
180°	17	17	17	17	17	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	12983.4	12983.4	12983.4	12983.4	12983.4
2.5°	12899.4	12805.6	12843.4	12872.6	12823.9
5°	13623.7	13571.4	13646.9	13612.8	13539.7
7.5°	14186.2	13967.0	13976.8	13923.2	13771.0
10°	14163.0	13993.8	13970.7	14099.7	14131.4
12.5°	13578.7	13527.6	13560.4	13612.8	13594.5
15°	13299.9	13264.6	13138.0	13229.3	13189.1
17.5°	13411.9	13315.7	13281.6	13427.7	13402.2
20°	13844.1	13794.2	13866.0	13876.9	13729.6
22.5°	14505.1	14440.6	14551.4	14430.9	14307.9
25°	14564.8	14586.7	14645.1	14671.9	14457.6
27.5°	14398.0	14438.2	14373.6	14480.8	14305.5
30°	14475.9	14486.9	14428.4	14463.7	14398.0
32.5°	14759.5	14757.1	14698.7	14842.3	14814.3
35°	15302.5	15330.5	15304.9	15318.3	15283.0
37.5°	15877.1	15727.4	15738.3	15752.9	15776.1
40°	15520.4	15571.5	15503.4	15627.5	15617.8
42.5°	15238.0	15403.5	15352.4	15341.5	15362.2
45°	15302.5	15350.0	15375.5	15368.2	15470.5
47.5°	15460.8	15483.9	15496.1	15415.7	15459.5
50°	15475.4	15350.0	15419.4	15353.6	15429.1
52.5°	14675.5	14637.8	14570.9	14735.2	14695.0
55°	13615.2	13542.2	13545.8	13515.4	13749.1
57.5°	12657.1	12418.5	12485.5	12462.3	12503.7
60°	11310.7	11064.8	11075.7	11126.9	11204.8
62.5°	9883.9	9866.9	9729.3	9838.9	9901.0
65°	8385.3	8368.3	8341.5	8353.7	8398.7
67.5°	7097.3	6906.2	6945.2	6917.2	6963.4
70°	5836.1	5759.4	5747.3	5753.4	5780.1
72.5°	4887.8	4807.4	4817.2	4785.5	4829.4
75°	3904.1	3865.2	3899.3	3864.0	3881.0
77.5°	3164.0	3149.4	3157.9	3137.2	3160.3
80°	2565.0	2555.3	2557.7	2560.2	2605.2
82.5°	2047.6	2036.7	1998.9	2041.6	2059.8
85°	1628.9	1603.3	1571.6	1610.6	1669.0
87.5°	1283.1	1233.2	1210.1	1250.3	1289.2
90°	916.7	875.3	818.1	872.9	919.1
92.5°	740.2	749.9	724.3	735.3	757.2
95°	634.3	645.2	662.3	636.7	641.6
97.5°	569.7	571.0	571.0	569.7	572.2
100°	483.3	488.2	490.6	489.4	485.7
102.5°	403.0	406.6	396.9	400.5	398.1
105°	278.8	288.5	287.3	284.9	282.4
107.5°	181.4	181.4	177.7	181.4	188.7
110°	98.6	96.2	93.7	97.4	101.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	45.0	46.3	47.5	45.0	45.0
115°	21.9	21.9	21.9	20.7	21.9
117.5°	14.6	14.6	14.6	14.6	14.6
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	24.3	24.3	25.6	24.3
142.5°	25.6	24.3	24.3	25.6	24.3
145°	24.3	24.3	24.3	24.3	24.3
147.5°	23.1	23.1	23.1	23.1	21.9
150°	20.7	20.7	20.7	20.7	20.7
152.5°	19.5	18.3	18.3	18.3	18.3
155°	17.0	17.0	17.0	17.0	17.0
157.5°	17.0	17.0	17.0	17.0	17.0
160°	18.3	17.0	17.0	17.0	17.0
162.5°	18.3	17.0	17.0	17.0	17.0
165°	18.3	17.0	17.0	17.0	17.0
167.5°	18.3	17.0	17.0	17.0	17.0
170°	18.3	17.0	17.0	17.0	17.0
172.5°	17.0	17.0	17.0	17.0	17.0
175°	17.0	17.0	17.0	17.0	17.0
177.5°	17.0	17.0	17.0	17.0	18.3
180°	17.0	17.0	17.0	17.0	17.0

(END OF REPORT)