

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: P381711

Luminaire Tested: **BMK-50-MCL-UNV-L735-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: P381711  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-50-MCL-UNV-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 52904.9 lumens  
Efficiency: N/A  
Efficacy: 159.1 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

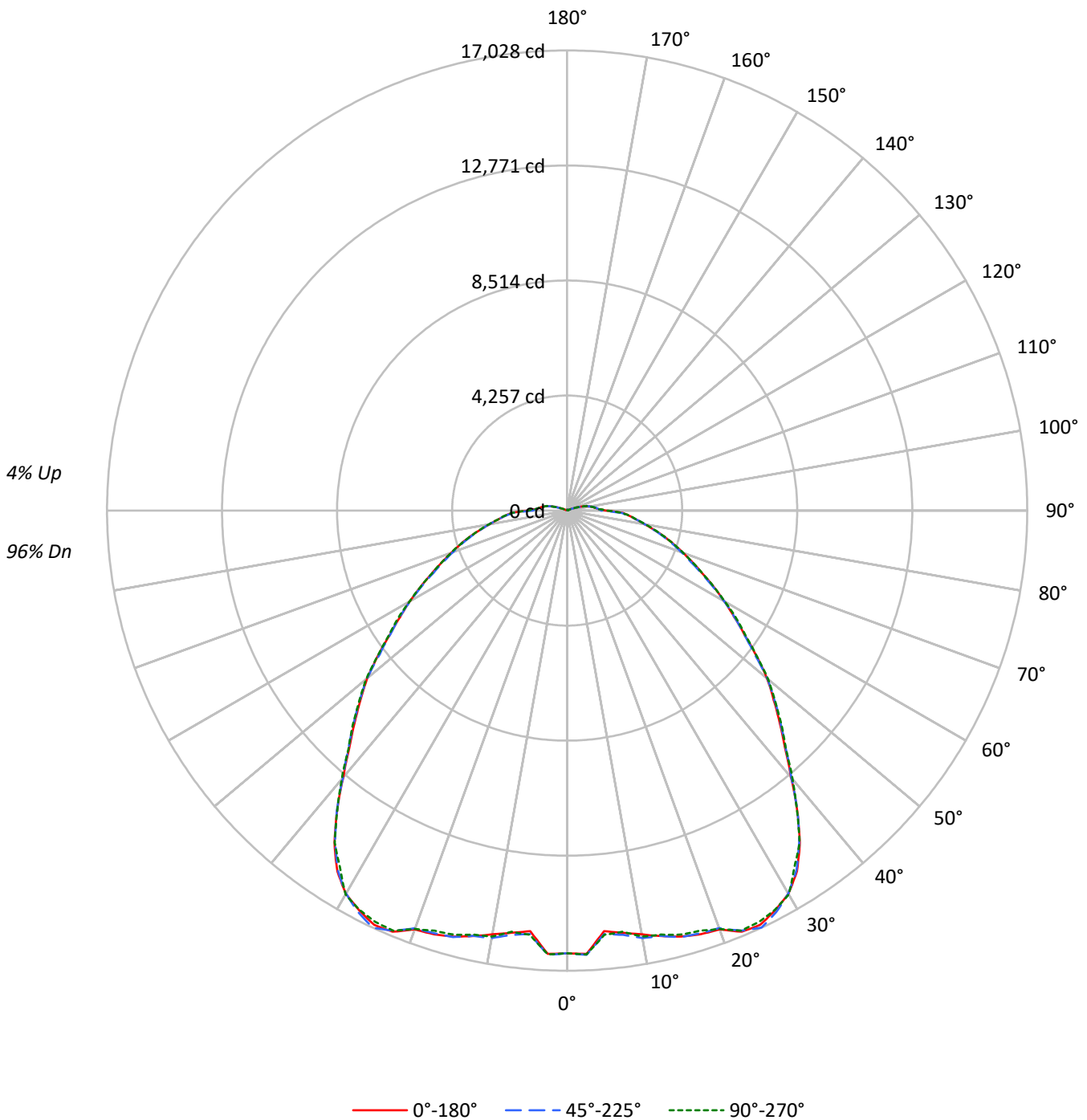
Input Watts (W): 332.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	107	102	97	93	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	126336	126336	126336
5°	119684	120501	120769
10°	122140	123201	122759
15°	126257	126417	125693
20°	129700	129349	129598
25°	136344	137275	135397
30°	136417	136354	136699
35°	130437	130115	130304
40°	117978	118138	118825
45°	108401	108931	109281
50°	101429	101601	102012
55°	92130	91841	92555
60°	85878	85795	86142
65°	80408	79395	80472
70°	77370	76390	77499
75°	76780	75724	76712
80°	76986	77217	78197
85°	87070	86703	88249



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1519.3	2.9
10°-20°	4617.4	8.7
20°-30°	7741.4	14.6
30°-40°	9285.1	17.6
40°-50°	8654.8	16.4
50°-60°	7218.8	13.6
60°-70°	5484.3	10.4
70°-80°	3912.0	7.4
80°-90°	2478.9	4.7
90°-100°	1190.6	2.3
100°-110°	619.9	1.2
110°-120°	84.1	0.2
120°-130°	25.1	0.0
130°-140°	27.9	0.1
140°-150°	23.4	0.0
150°-160°	12.5	0.0
160°-170°	7.2	0.0
170°-180°	2.4	0.0
0°-30°	13878.1	26.2
0°-40°	23163.2	43.8
0°-60°	39036.8	73.8
0°-90°	50911.9	96.2
90°-120°	1894.5	3.6
90°-150°	1970.9	3.7
90°-180°	1993.0	3.8
0°-180°	52904.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	16380	16380	16380	16380	16380	
5°	15620	15687	15726	15737	15761	###
15°	16318	16273	16338	16374	16245	4621
25°	16913	16948	17028	16904	16796	7737
35°	15011	14970	14974	15022	14996	9296
45°	11124	11154	11179	11192	11215	8622
55°	8020	7999	7994	7974	8056	7235
65°	5534	5438	5464	5474	5538	5524
75°	3724	3697	3673	3682	3721	3928
85°	2327	2327	2317	2307	2358	2020
90°	1438	1383	1266	1367	1461	841
95°	1055	1096	1098	1066	1059	831
105°	597	603	598	592	604	623
115°	48	51	52	50	51	82
125°	28	28	27	28	29	25
135°	36	36	36	36	37	28
145°	39	38	38	38	37	24
155°	26	26	25	25	26	13
165°	26	25	25	25	25	7
175°	24	25	24	25	26	2
180°	25	25	25	25	25	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	16379.7	16379.7	16379.7	16379.7	16379.7
2.5°	16420.0	16377.5	16454.8	16482.0	16439.5
5°	15619.7	15687.2	15726.4	15737.3	15761.3
7.5°	15755.8	15687.2	15832.0	15832.0	15719.9
10°	15923.5	16082.5	16061.8	16035.6	16004.1
12.5°	16129.3	16122.7	16120.6	16097.7	16071.6
15°	16317.6	16273.0	16338.3	16374.2	16244.7
17.5°	16437.4	16312.2	16399.3	16460.2	16302.4
20°	16488.5	16359.0	16443.9	16546.2	16475.5
22.5°	16871.8	16790.1	16823.9	16900.1	16820.6
25°	16913.1	16948.0	17028.5	16904.4	16795.6
27.5°	16673.6	16723.7	16755.3	16737.9	16652.9
30°	16373.1	16361.2	16365.5	16426.5	16406.9
32.5°	15831.0	15762.4	15787.4	15718.8	15648.1
35°	15011.2	14969.8	14974.1	15022.0	14995.9
37.5°	13992.1	13929.0	13996.5	14031.3	13972.5
40°	12891.4	12985.1	12908.9	12933.9	12984.0
42.5°	11938.8	12023.7	11984.5	12019.4	11979.1
45°	11124.5	11153.9	11178.9	11192.0	11214.8
47.5°	10367.8	10399.4	10419.0	10433.1	10434.2
50°	9655.8	9643.8	9672.1	9599.2	9711.3
52.5°	8827.3	8748.9	8745.6	8721.7	8848.0
55°	8019.5	7998.8	7994.4	7973.7	8056.5
57.5°	7336.8	7339.0	7349.9	7356.4	7426.1
60°	6718.4	6660.7	6711.9	6696.7	6739.1
62.5°	6115.3	6046.7	6071.7	6070.7	6127.3
65°	5533.9	5438.1	5464.2	5474.0	5538.3
67.5°	5028.8	4977.6	4948.2	4989.6	5036.4
70°	4556.3	4521.4	4498.6	4525.8	4563.9
72.5°	4128.4	4079.4	4080.5	4075.0	4142.5
75°	3724.5	3697.3	3673.3	3682.0	3721.2
77.5°	3292.3	3327.1	3280.3	3297.7	3315.1
80°	2906.9	2946.1	2915.6	2912.3	2952.6
82.5°	2602.0	2605.3	2604.2	2585.7	2598.8
85°	2326.6	2326.6	2316.8	2307.0	2358.1
87.5°	2072.9	2019.6	2008.7	2016.3	2046.8
90°	1438.2	1382.7	1266.2	1367.4	1461.1
92.5°	1184.5	1205.2	1174.7	1174.7	1187.8
95°	1055.0	1096.3	1098.5	1065.8	1059.3
97.5°	970.0	996.2	986.4	969.0	978.8
100°	866.6	875.3	866.6	860.1	863.3
102.5°	773.0	771.9	767.5	759.9	780.6
105°	596.6	603.1	597.7	592.3	604.2
107.5°	418.1	412.6	403.9	405.0	410.4
110°	253.7	254.8	239.5	243.9	259.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	115.4	121.9	126.3	119.8	123.0
115°	47.9	51.2	52.3	50.1	51.2
117.5°	25.0	25.0	24.0	25.0	27.2
120°	22.9	24.0	21.8	22.9	25.0
122.5°	25.0	26.1	25.0	26.1	27.2
125°	28.3	28.3	27.2	28.3	29.4
127.5°	30.5	30.5	29.4	30.5	31.6
130°	31.6	32.7	32.7	32.7	32.7
132.5°	33.8	34.8	33.8	34.8	34.8
135°	35.9	35.9	35.9	35.9	37.0
137.5°	38.1	38.1	38.1	38.1	38.1
140°	39.2	39.2	39.2	39.2	39.2
142.5°	40.3	39.2	39.2	39.2	38.1
145°	39.2	38.1	38.1	38.1	37.0
147.5°	35.9	35.9	34.8	35.9	34.8
150°	32.7	31.6	31.6	31.6	31.6
152.5°	28.3	28.3	27.2	28.3	28.3
155°	26.1	26.1	25.0	25.0	26.1
157.5°	26.1	26.1	25.0	25.0	26.1
160°	26.1	26.1	25.0	25.0	25.0
162.5°	26.1	26.1	25.0	25.0	25.0
165°	26.1	25.0	25.0	25.0	25.0
167.5°	26.1	25.0	25.0	25.0	25.0
170°	26.1	25.0	25.0	25.0	25.0
172.5°	25.0	25.0	25.0	25.0	25.0
175°	24.0	25.0	24.0	25.0	26.1
177.5°	24.0	24.0	24.0	25.0	26.1
180°	25.0	25.0	25.0	25.0	25.0

(END OF REPORT)