

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: P381657

Luminaire Tested: **BMK-50-NCL-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: P381657  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-50-NCL-UNV-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

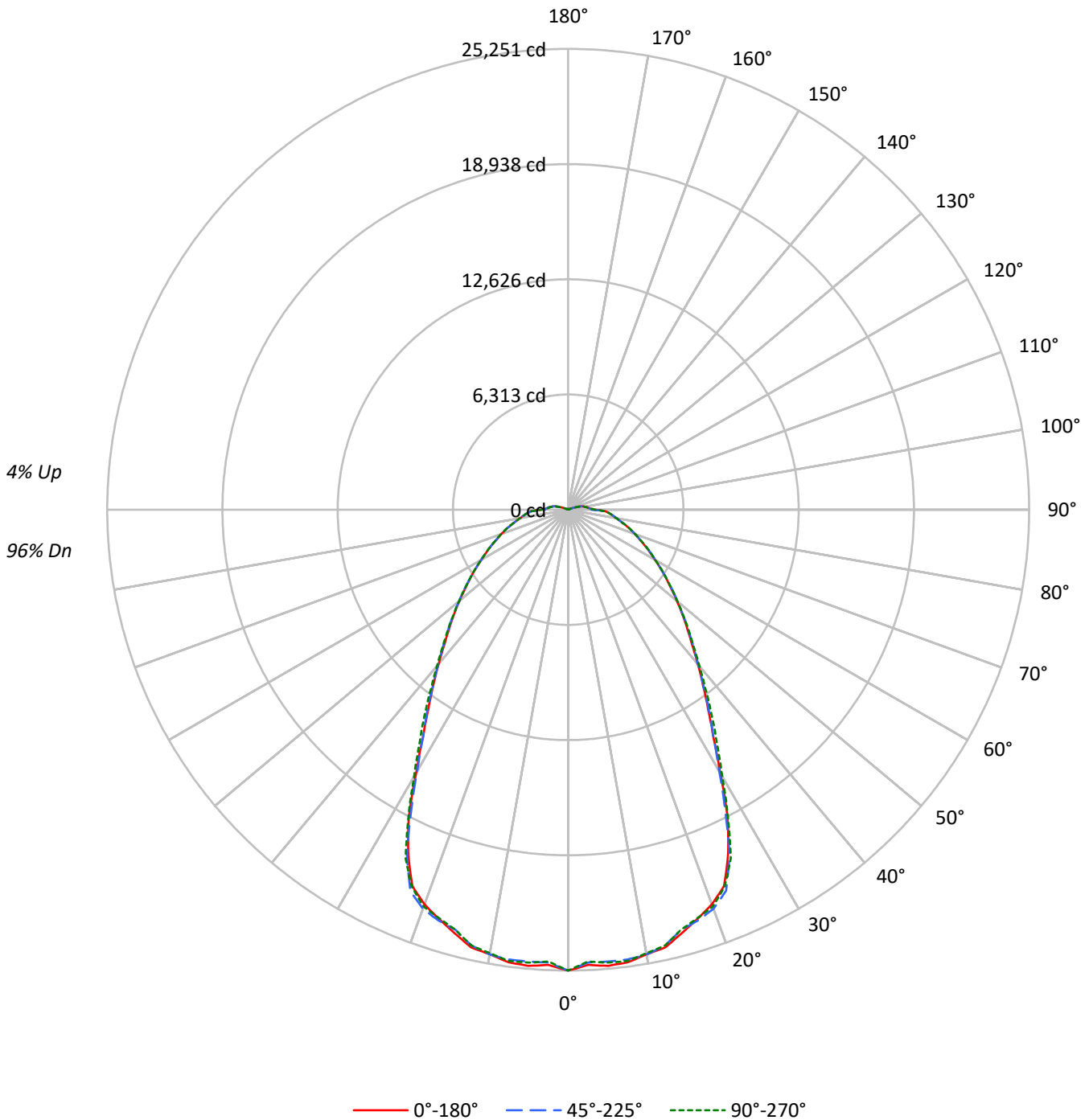
Lumens per Lamp: N/A  
Luminaire Lumens: 52726.4 lumens  
Efficiency: N/A  
Efficacy: 158.6 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

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	103	103	103	98	98	98	96
1	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51
5	77	65	57	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	40
7	67	54	46	40	65	54	46	40	52	45	40	50	44	39	48	43	38	37
8	63	50	42	37	61	49	42	36	48	41	36	46	40	36	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28

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

	0°	45°	90°
0°	194763	194763	194763
5°	192226	190457	190883
10°	189722	189797	189255
15°	185897	184473	184389
20°	180980	183036	182042
25°	167175	168483	169878
30°	138666	137741	140589
35°	116122	116832	118970
40°	101139	101328	102274
45°	89909	90683	90789
50°	81689	81952	82136
55°	75230	75406	75419
60°	70194	70527	70347
65°	67136	67389	67690
70°	65999	66201	66368
75°	66544	66342	66814
80°	71046	71361	70786
85°	84705	84379	85113



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2375.3	4.5
10°-20°	6767.7	12.8
20°-30°	9411.8	17.9
30°-40°	8484.6	16.1
40°-50°	7191.1	13.6
50°-60°	5885.4	11.2
60°-70°	4626.4	8.8
70°-80°	3440.8	6.5
80°-90°	2396.3	4.5
90°-100°	1240.3	2.4
100°-110°	694.0	1.3
110°-120°	101.5	0.2
120°-130°	27.4	0.1
130°-140°	30.5	0.1
140°-150°	26.3	0.0
150°-160°	15.0	0.0
160°-170°	8.9	0.0
170°-180°	3.0	0.0
0°-30°	18554.9	35.2
0°-40°	27039.5	51.3
0°-60°	40116.0	76.1
0°-90°	50579.5	95.9
90°-120°	2035.8	3.9
90°-150°	2120.0	4.0
90°-180°	2147.0	4.1
0°-180°	52726.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	25251	25251	25251	25251	25251	
5°	25087	24866	24856	24985	24912	###
15°	24026	23888	23842	24012	23831	6775
25°	20738	20796	20900	21094	21073	9372
35°	13364	13346	13446	13486	13692	8438
45°	9227	9244	9306	9250	9317	7160
55°	6548	6517	6564	6564	6565	5882
65°	4620	4617	4638	4689	4659	4598
75°	3228	3239	3218	3240	3241	3437
85°	2263	2269	2255	2247	2274	1933
90°	1482	1410	1290	1391	1450	855
95°	1107	1117	1144	1091	1085	878
105°	699	692	686	670	678	698
115°	68	66	66	63	65	103
125°	30	32	30	30	32	27
135°	39	40	39	39	40	30
145°	44	42	44	42	42	27
155°	30	32	30	30	30	15
165°	33	32	32	32	32	9
175°	32	32	32	32	33	3
180°	32	32	32	32	32	



TEST NUMBER: P381657

CATALOG NUMBER: BMK-50-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	25251.4	25251.4	25251.4	25251.4	25251.4
2.5°	24967.2	24845.3	24836.6	24872.5	24777.8
5°	25087.0	24866.0	24856.2	24984.6	24911.7
7.5°	25010.8	24826.8	24857.3	25006.4	24937.8
10°	24734.2	24659.1	24744.0	24870.3	24673.3
12.5°	24563.3	24458.8	24458.8	24477.3	24467.5
15°	24025.5	23888.3	23841.5	24012.4	23830.6
17.5°	23517.1	23397.3	23602.0	23550.8	23474.6
20°	23007.6	23076.1	23268.9	23164.3	23142.6
22.5°	22313.0	22338.0	22598.2	22602.6	22372.8
25°	20737.6	20796.4	20899.8	21093.6	21072.9
27.5°	18882.5	18654.9	18645.1	19076.3	18941.3
30°	16643.0	16580.9	16532.0	16855.3	16873.8
32.5°	14807.5	14872.8	14804.2	14980.6	15144.9
35°	13363.8	13346.4	13445.5	13485.8	13691.5
37.5°	12135.8	12120.5	12159.7	12282.7	12339.4
40°	11051.4	11051.4	11072.1	11195.1	11175.5
42.5°	10042.2	10138.0	10132.6	10167.4	10169.6
45°	9226.8	9244.2	9306.2	9249.6	9317.1
47.5°	8476.6	8447.2	8526.7	8461.4	8521.3
50°	7776.6	7725.4	7801.6	7730.9	7819.1
52.5°	7122.3	7066.8	7166.9	7095.1	7159.3
55°	6548.5	6517.0	6563.8	6563.8	6564.9
57.5°	6005.3	5998.8	5999.8	6043.4	6035.8
60°	5491.4	5517.5	5517.5	5548.0	5503.4
62.5°	5038.5	5048.3	5082.1	5099.5	5061.4
65°	4620.5	4617.2	4637.9	4689.0	4658.6
67.5°	4223.1	4236.1	4251.4	4304.7	4247.0
70°	3886.7	3883.4	3898.6	3933.5	3908.4
72.5°	3560.1	3553.5	3565.5	3582.9	3581.8
75°	3228.0	3238.9	3218.2	3240.0	3241.1
77.5°	2939.5	2937.3	2936.2	2925.3	2947.1
80°	2682.6	2680.4	2694.5	2666.2	2672.8
82.5°	2468.1	2464.8	2481.2	2443.0	2449.6
85°	2263.4	2268.9	2254.7	2247.1	2274.3
87.5°	2053.3	2039.1	2023.9	2029.3	2033.7
90°	1481.7	1409.9	1290.1	1391.4	1450.2
92.5°	1225.9	1260.7	1213.9	1205.2	1249.8
95°	1107.2	1117.0	1144.2	1090.9	1085.4
97.5°	1039.7	1063.7	1056.0	1021.2	1020.1
100°	929.8	942.8	936.3	923.2	924.3
102.5°	831.8	860.1	829.6	823.1	832.9
105°	698.9	692.4	685.9	669.6	678.3
107.5°	485.6	492.1	477.9	474.7	488.8
110°	299.4	295.0	280.9	284.2	292.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	152.4	152.4	147.0	144.8
115°	67.5	66.4	66.4	63.1	65.3
117.5°	31.6	30.5	28.3	30.5	32.7
120°	25.0	26.1	24.0	25.0	27.2
122.5°	27.2	29.4	27.2	28.3	29.4
125°	30.5	31.6	30.5	30.5	31.6
127.5°	32.7	33.7	32.7	32.7	33.7
130°	34.8	35.9	34.8	35.9	35.9
132.5°	37.0	38.1	37.0	37.0	38.1
135°	39.2	40.3	39.2	39.2	40.3
137.5°	41.4	42.5	41.4	41.4	41.4
140°	43.5	43.5	42.5	43.5	42.5
142.5°	44.6	43.5	43.5	43.5	42.5
145°	43.5	42.5	43.5	42.5	42.5
147.5°	41.4	40.3	40.3	40.3	40.3
150°	37.0	37.0	35.9	37.0	37.0
152.5°	33.7	33.7	32.7	32.7	33.7
155°	30.5	31.6	30.5	30.5	30.5
157.5°	31.6	31.6	30.5	30.5	31.6
160°	31.6	31.6	30.5	30.5	31.6
162.5°	31.6	31.6	30.5	30.5	31.6
165°	32.7	31.6	31.6	31.6	31.6
167.5°	32.7	31.6	31.6	30.5	31.6
170°	32.7	32.7	31.6	30.5	31.6
172.5°	32.7	32.7	31.6	31.6	31.6
175°	31.6	31.6	31.6	31.6	32.7
177.5°	30.5	30.5	30.5	31.6	32.7
180°	31.6	31.6	31.6	31.6	31.6

(END OF REPORT)