

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: P294560

Luminaire Tested: **BMK-15-NCL-UNV-L735-CD-U**

Issue Date: 3/3/2020

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: P294560  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-15-NCL-UNV-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 70 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

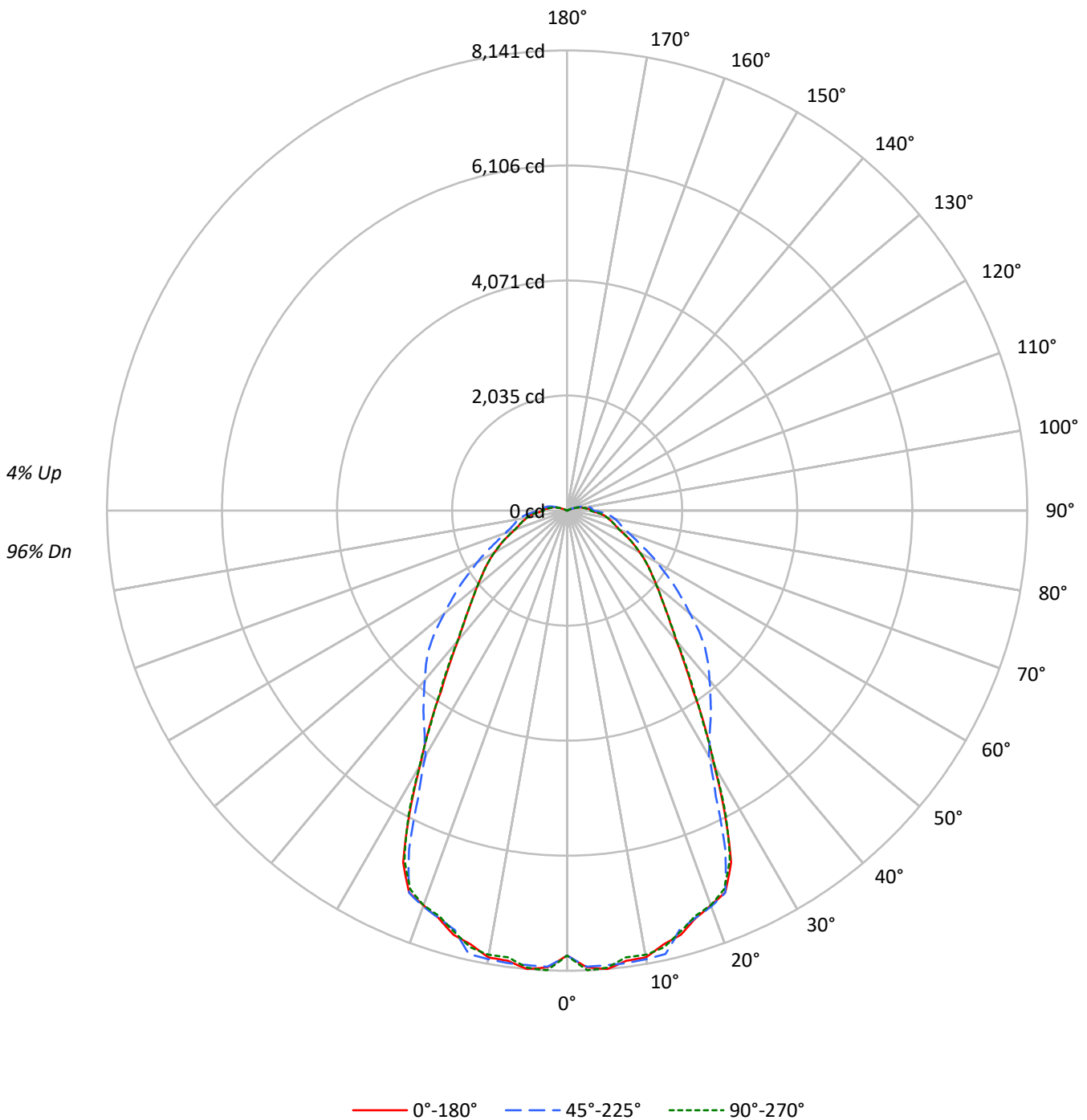
Lumens per Lamp: N/A  
Luminaire Lumens: 16353.0 lumens  
Efficiency: N/A  
Efficacy: 174.3 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 93.8  
Input Voltage (V): 120  
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	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	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80				
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68				
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59				
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52				
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46				
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41				
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37				
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34				
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31				
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29				

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

	0°	45°	90°
0°	60693	60693	60693
5°	62349	61825	62174
10°	61521	61778	61191
15°	60078	59404	59694
20°	58430	58599	58410
25°	55311	53323	54857
30°	43319	41766	43508
35°	33717	38457	34008
40°	27489	35830	27587
45°	23928	33631	23940
50°	21725	29807	21739
55°	20341	26516	20234
60°	19001	23490	19001
65°	17781	20995	17781
70°	16661	19757	16639
75°	17352	20171	17299
80°	19064	22862	19029
85°	21571	26086	21522



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	766.3	4.7
10°-20°	2178.1	13.3
20°-30°	2989.6	18.3
30°-40°	2621.2	16.0
40°-50°	2243.4	13.7
50°-60°	1816.8	11.1
60°-70°	1362.7	8.3
70°-80°	992.5	6.1
80°-90°	679.4	4.2
90°-100°	420.0	2.6
100°-110°	243.8	1.5
110°-120°	38.5	0.2
120°-130°	0.6	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	5934.0	36.3
0°-40°	8555.2	52.3
0°-60°	12615.4	77.1
0°-90°	15650.1	95.7
90°-120°	702.4	4.3
90°-150°	702.9	4.3
90°-180°	703.0	4.3
0°-180°	16353.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7873	7873	7873	7873	7873	
5°	8141	8066	8073	8089	8118	769
15°	7768	7691	7681	7681	7719	2183
25°	6864	6607	6618	6618	6808	3038
35°	3882	4107	4428	4142	3916	2473
45°	2457	2860	3453	2836	2458	1915
55°	1771	2016	2309	2017	1762	1583
65°	1224	1403	1446	1396	1224	1214
75°	842	956	979	951	840	891
85°	577	626	697	626	575	499
90°	424	440	461	432	412	240
95°	361	366	434	373	363	286
105°	224	229	287	225	221	226
115°	24	26	34	26	24	37
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P294560

CATALOG NUMBER: BMK-15-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7872.9	7872.9	7872.9	7872.9	7872.9
2.5°	8087.5	8029.8	8078.1	8110.3	8139.8
5°	8141.1	8066.0	8072.7	8088.8	8118.3
7.5°	8033.8	7953.4	8072.7	8013.7	7972.2
10°	8024.5	7894.4	8058.0	7949.4	7981.5
12.5°	7862.2	7848.8	8033.8	7901.1	7913.2
15°	7768.3	7690.6	7681.2	7681.2	7718.7
17.5°	7560.5	7513.5	7556.5	7533.7	7521.6
20°	7431.7	7410.3	7453.2	7474.7	7429.1
22.5°	7309.7	7205.1	7315.1	7223.9	7250.7
25°	6864.5	6607.0	6617.8	6617.8	6808.2
27.5°	6035.8	5885.6	5696.5	5907.0	6081.4
30°	5201.7	5245.9	5015.3	5236.6	5224.5
32.5°	4528.5	4653.2	4690.8	4658.6	4495.0
35°	3882.2	4107.4	4427.9	4142.3	3915.7
37.5°	3406.1	3715.9	4166.4	3709.2	3445.0
40°	3005.1	3373.9	3917.0	3390.0	3015.9
42.5°	2703.4	3108.4	3695.8	3092.3	2711.5
45°	2456.7	2860.3	3453.0	2836.2	2458.0
47.5°	2244.8	2631.0	3163.4	2632.4	2244.8
50°	2069.1	2382.9	2838.9	2381.6	2070.5
52.5°	1904.2	2196.5	2562.6	2180.4	1909.6
55°	1771.4	2015.5	2309.2	2016.8	1762.1
57.5°	1625.3	1850.6	2051.7	1847.9	1632.0
60°	1487.2	1688.3	1838.5	1673.6	1487.2
62.5°	1351.7	1540.8	1637.3	1542.1	1354.4
65°	1224.3	1402.7	1445.6	1396.0	1224.3
67.5°	1094.2	1268.6	1288.7	1260.5	1100.9
70°	981.6	1155.9	1164.0	1143.9	980.3
72.5°	905.2	1046.0	1055.4	1048.7	905.2
75°	842.1	956.1	978.9	950.8	839.5
77.5°	776.4	870.3	922.6	871.6	781.8
80°	720.1	789.8	863.6	791.2	718.8
82.5°	661.1	713.4	795.2	716.1	666.5
85°	576.6	626.2	697.3	626.2	575.3
87.5°	469.3	531.0	575.3	527.0	461.3
90°	423.8	439.8	461.3	431.8	411.7
92.5°	435.8	411.7	447.9	409.0	418.4
95°	360.7	366.1	434.5	372.8	363.4
97.5°	325.9	340.6	413.0	333.9	324.5
100°	287.0	311.1	371.5	305.7	288.3
102.5°	261.5	277.6	340.6	281.6	265.5
105°	223.9	229.3	287.0	225.3	221.3
107.5°	167.6	167.6	189.1	169.0	164.9
110°	111.3	105.9	114.0	103.3	111.3



TEST NUMBER: P294560

CATALOG NUMBER: BMK-15-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	59.0	56.3	65.7	55.0	57.7
115°	24.1	25.5	33.5	25.5	24.1
117.5°	6.7	10.7	12.1	10.7	6.7
120°	4.0	5.4	4.0	5.4	4.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)