

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: P294554

Luminaire Tested: **BMK-12-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: P294554  
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-12-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**

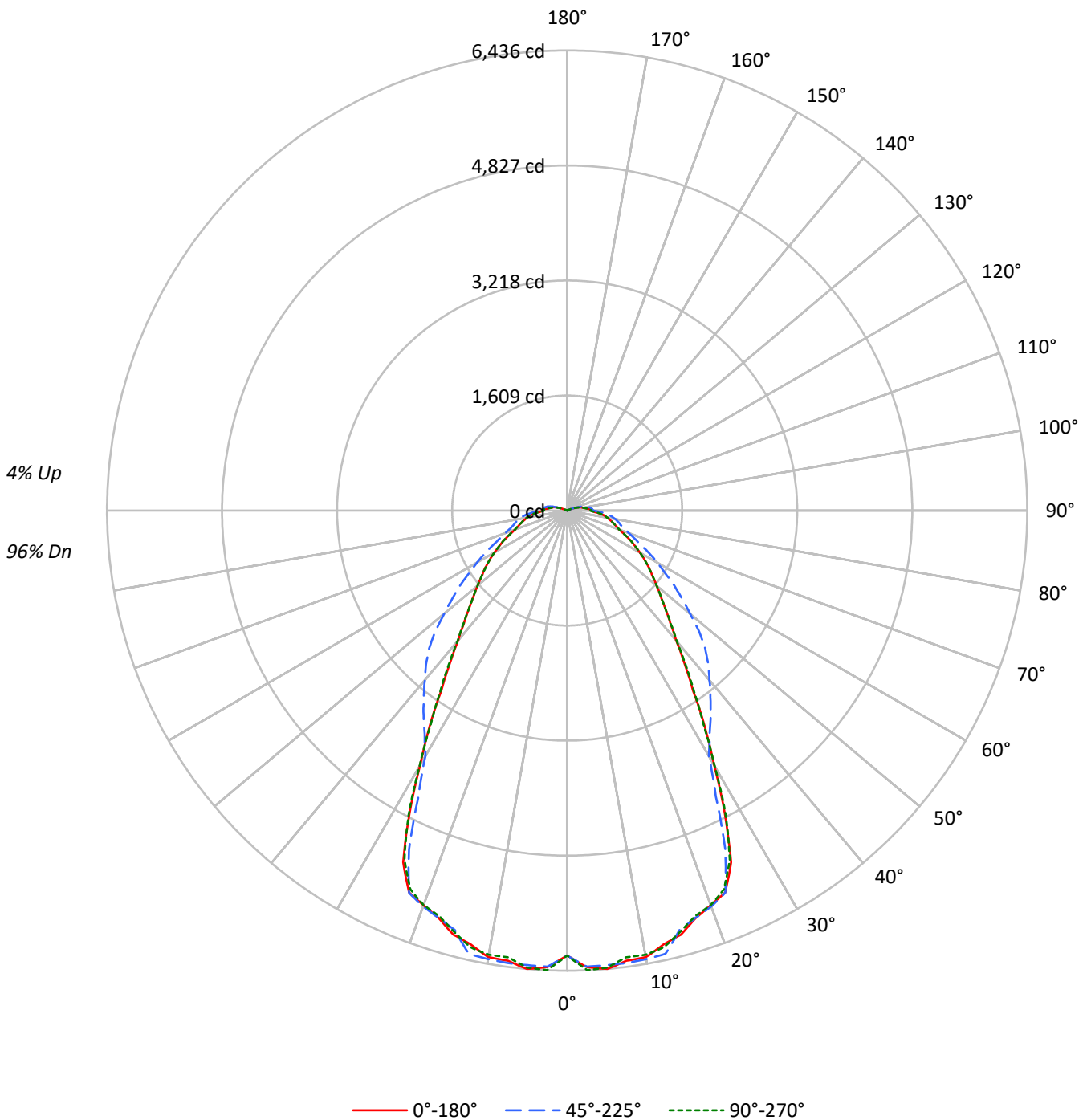
Lumens per Lamp: N/A  
Luminaire Lumens: 12927.0 lumens  
Efficiency: N/A  
Efficacy: 174.0 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 74.3  
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°	47978	47978	47978
5°	49287	48873	49149
10°	48632	48835	48372
15°	47491	46958	47188
20°	46189	46322	46173
25°	43723	42151	43365
30°	34243	33016	34393
35°	26653	30401	26883
40°	21730	28324	21807
45°	18915	26586	18925
50°	17174	23562	17185
55°	16079	20961	15994
60°	15020	18568	15020
65°	14056	16596	14056
70°	13171	15617	13153
75°	13717	15945	13674
80°	15069	18073	15042
85°	17052	20621	17014



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	605.7	4.7
10°-20°	1721.8	13.3
20°-30°	2363.3	18.3
30°-40°	2072.1	16.0
40°-50°	1773.4	13.7
50°-60°	1436.2	11.1
60°-70°	1077.2	8.3
70°-80°	784.6	6.1
80°-90°	537.1	4.2
90°-100°	332.0	2.6
100°-110°	192.7	1.5
110°-120°	30.4	0.2
120°-130°	0.4	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°	4690.8	36.3
0°-40°	6762.9	52.3
0°-60°	9972.4	77.1
0°-90°	12371.3	95.7
90°-120°	555.2	4.3
90°-150°	555.7	4.3
90°-180°	556.0	4.3
0°-180°	12927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6224	6224	6224	6224	6224	
5°	6436	6376	6382	6394	6418	608
15°	6141	6079	6072	6072	6102	1725
25°	5426	5223	5231	5231	5382	2401
35°	3069	3247	3500	3274	3095	1955
45°	1942	2261	2730	2242	1943	1514
55°	1400	1593	1825	1594	1393	1251
65°	968	1109	1143	1104	968	960
75°	666	756	774	752	664	705
85°	456	495	551	495	455	394
90°	335	348	365	341	325	190
95°	285	289	344	295	287	226
105°	177	181	227	178	175	179
115°	19	20	26	20	19	29
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



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CATALOG NUMBER: BMK-12-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6223.5	6223.5	6223.5	6223.5	6223.5
2.5°	6393.1	6347.6	6385.7	6411.2	6434.5
5°	6435.5	6376.2	6381.5	6394.2	6417.5
7.5°	6350.7	6287.1	6381.5	6334.8	6302.0
10°	6343.3	6240.5	6369.8	6284.0	6309.4
12.5°	6215.0	6204.4	6350.7	6245.8	6255.3
15°	6140.8	6079.4	6071.9	6071.9	6101.6
17.5°	5976.5	5939.4	5973.4	5955.3	5945.8
20°	5874.8	5857.8	5891.7	5908.7	5872.7
22.5°	5778.3	5695.6	5782.5	5710.5	5731.7
25°	5426.4	5222.8	5231.3	5231.3	5381.9
27.5°	4771.3	4652.5	4503.1	4669.5	4807.3
30°	4111.9	4146.9	3964.6	4139.5	4129.9
32.5°	3579.8	3678.4	3708.0	3682.6	3553.3
35°	3068.8	3246.9	3500.3	3274.5	3095.3
37.5°	2692.5	2937.4	3293.6	2932.1	2723.3
40°	2375.6	2667.1	3096.4	2679.8	2384.0
42.5°	2137.1	2457.2	2921.5	2444.5	2143.4
45°	1942.0	2261.1	2729.6	2242.0	1943.1
47.5°	1774.5	2079.8	2500.6	2080.9	1774.5
50°	1635.7	1883.7	2244.1	1882.6	1636.7
52.5°	1505.3	1736.4	2025.7	1723.6	1509.5
55°	1400.3	1593.2	1825.4	1594.3	1392.9
57.5°	1284.8	1462.9	1621.9	1460.7	1290.1
60°	1175.6	1334.6	1453.3	1322.9	1175.6
62.5°	1068.5	1218.0	1294.3	1219.1	1070.6
65°	967.8	1108.8	1142.7	1103.5	967.8
67.5°	865.0	1002.8	1018.7	996.4	870.3
70°	776.0	913.8	920.1	904.2	774.9
72.5°	715.5	826.8	834.3	829.0	715.5
75°	665.7	755.8	773.8	751.6	663.6
77.5°	613.8	688.0	729.3	689.0	618.0
80°	569.2	624.4	682.7	625.4	568.2
82.5°	522.6	563.9	628.6	566.1	526.8
85°	455.8	495.0	551.2	495.0	454.8
87.5°	371.0	419.8	454.8	416.6	364.7
90°	335.0	347.7	364.7	341.3	325.4
92.5°	344.5	325.4	354.1	323.3	330.7
95°	285.2	289.4	343.5	294.7	287.3
97.5°	257.6	269.3	326.5	264.0	256.5
100°	226.8	245.9	293.6	241.7	227.9
102.5°	206.7	219.4	269.3	222.6	209.9
105°	177.0	181.3	226.8	178.1	174.9
107.5°	132.5	132.5	149.5	133.6	130.4
110°	88.0	83.7	90.1	81.6	88.0



TEST NUMBER: P294554

CATALOG NUMBER: BMK-12-NCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	46.6	44.5	51.9	43.5	45.6
115°	19.1	20.1	26.5	20.1	19.1
117.5°	5.3	8.5	9.5	8.5	5.3
120°	3.2	4.2	3.2	4.2	3.2
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)