

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: P294573

Luminaire Tested: **BMK-24-NCL-UNV-L740-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: P294573  
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-24-NCL-UNV-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 70 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

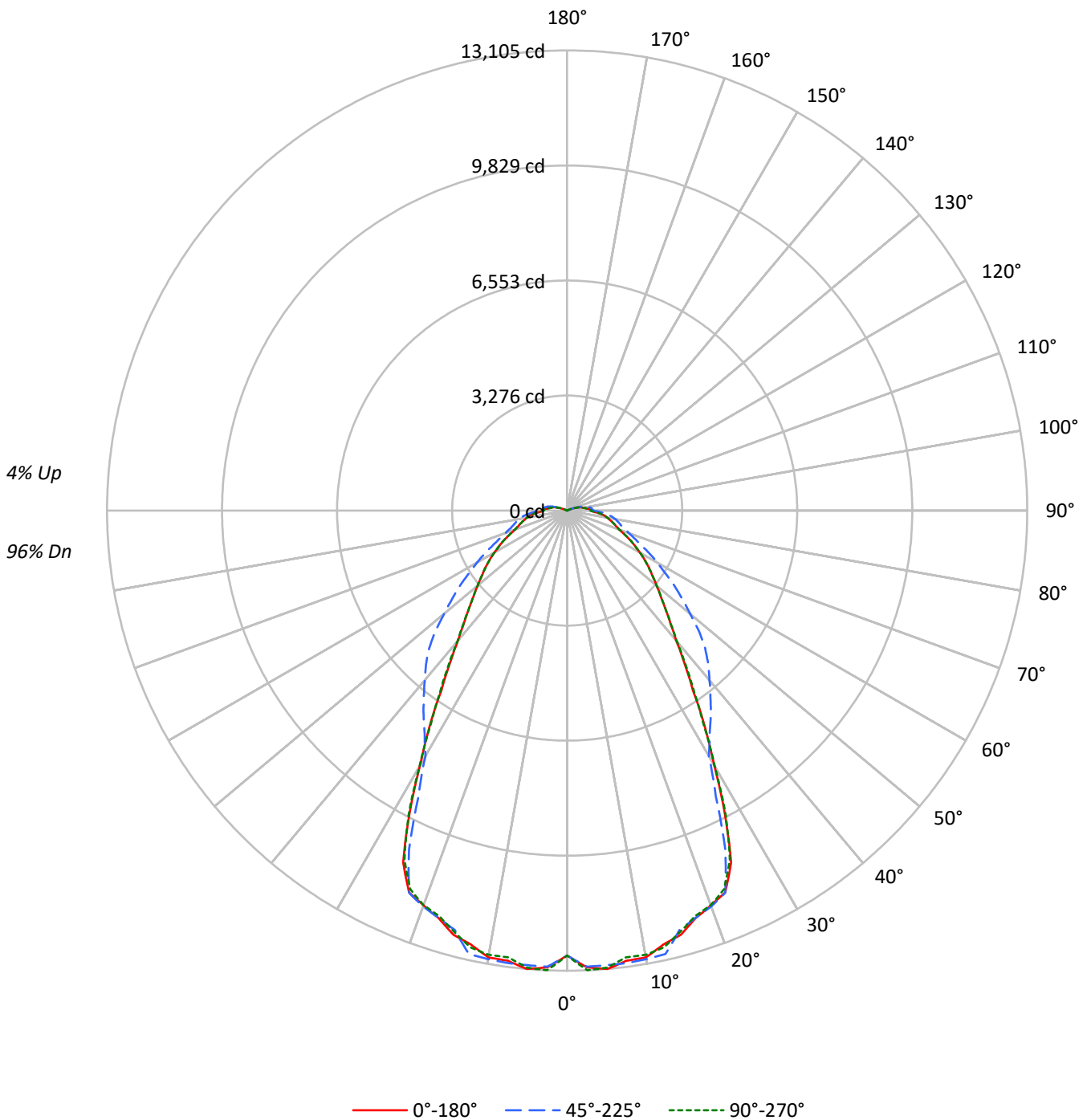
Lumens per Lamp: N/A  
Luminaire Lumens: 26324.0 lumens  
Efficiency: N/A  
Efficacy: 169.3 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 155.5  
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°	97700	97700	97700
5°	100366	99523	100085
10°	99032	99446	98503
15°	96710	95624	96092
20°	94057	94329	94023
25°	89036	85836	88306
30°	69731	67233	70037
35°	54275	61906	54744
40°	44250	57677	44408
45°	38517	54138	38538
50°	34972	47981	34994
55°	32745	42684	32570
60°	30586	37812	30586
65°	28623	33796	28623
70°	26820	31803	26784
75°	27934	32471	27845
80°	30688	36803	30630
85°	34724	41993	34646



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1233.5	4.7
10°-20°	3506.1	13.3
20°-30°	4812.5	18.3
30°-40°	4219.5	16.0
40°-50°	3611.3	13.7
50°-60°	2924.5	11.1
60°-70°	2193.6	8.3
70°-80°	1597.7	6.1
80°-90°	1093.7	4.2
90°-100°	676.1	2.6
100°-110°	392.5	1.5
110°-120°	62.0	0.2
120°-130°	0.9	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°	9552.1	36.3
0°-40°	13771.7	52.3
0°-60°	20307.5	77.1
0°-90°	25192.5	95.7
90°-120°	1130.7	4.3
90°-150°	1131.5	4.3
90°-180°	1132.0	4.3
0°-180°	26324.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12673	12673	12673	12673	12673	
5°	13105	12984	12995	13021	13068	###
15°	12505	12380	12365	12365	12425	3513
25°	11050	10636	10653	10653	10959	4890
35°	6249	6612	7128	6668	6303	3981
45°	3955	4604	5558	4566	3957	3083
55°	2852	3244	3717	3247	2836	2548
65°	1971	2258	2327	2247	1971	1954
75°	1356	1539	1576	1530	1351	1435
85°	928	1008	1122	1008	926	803
90°	682	708	743	695	663	387
95°	581	589	699	600	585	460
105°	360	369	462	363	356	364
115°	39	41	54	41	39	60
125°	0	0	0	0	0	1
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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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	12673.3	12673.3	12673.3	12673.3	12673.3
2.5°	13018.7	12925.9	13003.6	13055.4	13102.9
5°	13105.1	12984.2	12995.0	13020.9	13068.4
7.5°	12932.4	12802.8	12995.0	12900.0	12833.1
10°	12917.3	12707.9	12971.2	12796.4	12848.2
12.5°	12656.1	12634.5	12932.4	12718.7	12738.1
15°	12505.0	12379.8	12364.6	12364.6	12425.1
17.5°	12170.4	12094.8	12163.9	12127.2	12107.8
20°	11963.1	11928.6	11997.7	12032.2	11958.8
22.5°	11766.7	11598.3	11775.3	11628.6	11671.7
25°	11050.0	10635.6	10652.9	10652.9	10959.4
27.5°	9716.0	9474.2	9169.9	9508.8	9789.4
30°	8373.3	8444.6	8073.3	8429.5	8410.0
32.5°	7289.7	7490.5	7550.9	7499.1	7235.7
35°	6249.2	6611.9	7127.8	6668.0	6303.2
37.5°	5482.9	5981.6	6706.9	5970.8	5545.5
40°	4837.5	5431.1	6305.4	5457.0	4854.8
42.5°	4351.8	5003.7	5949.2	4977.8	4364.8
45°	3954.6	4604.4	5558.5	4565.5	3956.8
47.5°	3613.6	4235.2	5092.2	4237.4	3613.6
50°	3330.8	3835.9	4569.8	3833.7	3332.9
52.5°	3065.3	3535.8	4125.1	3509.9	3073.9
55°	2851.6	3244.4	3717.2	3246.6	2836.4
57.5°	2616.3	2978.9	3302.7	2974.6	2627.1
60°	2393.9	2717.7	2959.5	2694.0	2393.9
62.5°	2175.9	2480.3	2635.7	2482.4	2180.2
65°	1970.8	2257.9	2327.0	2247.1	1970.8
67.5°	1761.4	2042.1	2074.4	2029.1	1772.2
70°	1580.1	1860.7	1873.7	1841.3	1578.0
72.5°	1457.1	1683.7	1698.8	1688.1	1457.1
75°	1355.6	1539.1	1575.8	1530.5	1351.3
77.5°	1249.8	1401.0	1485.1	1403.1	1258.5
80°	1159.2	1271.4	1390.2	1273.6	1157.0
82.5°	1064.2	1148.4	1280.1	1152.7	1072.8
85°	928.2	1008.1	1122.5	1008.1	926.1
87.5°	755.5	854.8	926.1	848.3	742.6
90°	682.1	708.0	742.6	695.1	662.7
92.5°	701.6	662.7	721.0	658.4	673.5
95°	580.7	589.3	699.4	600.1	585.0
97.5°	524.5	548.3	664.9	537.5	522.4
100°	461.9	500.8	597.9	492.2	464.1
102.5°	420.9	446.8	548.3	453.3	427.4
105°	360.5	369.1	461.9	362.7	356.2
107.5°	269.8	269.8	304.4	272.0	265.5
110°	179.2	170.5	183.5	166.2	179.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	95.0	90.7	105.8	88.5	92.8
115°	38.9	41.0	54.0	41.0	38.9
117.5°	10.8	17.3	19.4	17.3	10.8
120°	6.5	8.6	6.5	8.6	6.5
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)