

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: P294557

Luminaire Tested: **BMK-12-NCL-UNV-L835-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: P294557  
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-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 80 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

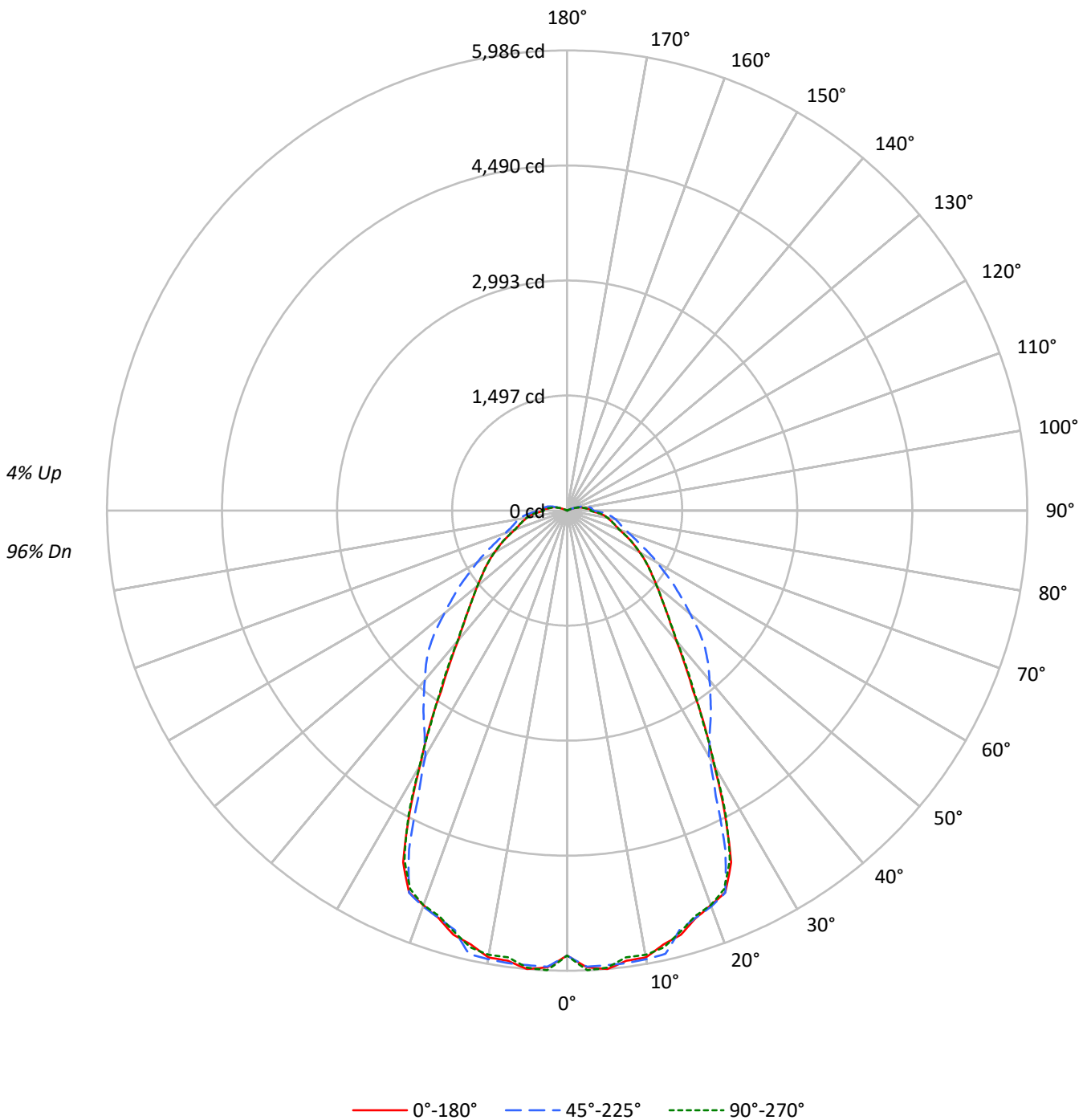
Lumens per Lamp: N/A  
Luminaire Lumens: 12024.0 lumens  
Efficiency: N/A  
Efficacy: 161.8 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

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	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°	44626	44626	44626
5°	45844	45459	45715
10°	45235	45424	44993
15°	44174	43678	43892
20°	42963	43087	42947
25°	40669	39207	40335
30°	31851	30709	31990
35°	24792	28277	25005
40°	20212	26345	20284
45°	17593	24728	17603
50°	15974	21917	15985
55°	14956	19497	14877
60°	13971	17271	13971
65°	13074	15437	13074
70°	12251	14526	12234
75°	12759	14832	12718
80°	14018	16811	13991
85°	15862	19180	15825



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	563.4	4.7
10°-20°	1601.5	13.3
20°-30°	2198.2	18.3
30°-40°	1927.3	16.0
40°-50°	1649.5	13.7
50°-60°	1335.8	11.1
60°-70°	1002.0	8.3
70°-80°	729.8	6.1
80°-90°	499.6	4.2
90°-100°	308.8	2.6
100°-110°	179.3	1.5
110°-120°	28.3	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°	4363.1	36.3
0°-40°	6290.5	52.3
0°-60°	9275.8	77.1
0°-90°	11507.2	95.7
90°-120°	516.4	4.3
90°-150°	516.8	4.3
90°-180°	517.0	4.3
0°-180°	12024.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5789	5789	5789	5789	5789	
5°	5986	5931	5936	5948	5969	566
15°	5712	5655	5648	5648	5675	1605
25°	5047	4858	4866	4866	5006	2234
35°	2854	3020	3256	3046	2879	1818
45°	1806	2103	2539	2085	1807	1408
55°	1302	1482	1698	1483	1296	1164
65°	900	1031	1063	1026	900	893
75°	619	703	720	699	617	655
85°	424	460	513	460	423	367
90°	312	323	339	318	303	177
95°	265	269	320	274	267	210
105°	165	169	211	166	163	166
115°	18	19	25	19	18	27
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-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5788.8	5788.8	5788.8	5788.8	5788.8
2.5°	5946.6	5904.2	5939.6	5963.3	5985.0
5°	5986.0	5930.8	5935.7	5947.5	5969.2
7.5°	5907.1	5848.0	5935.7	5892.3	5861.8
10°	5900.2	5804.6	5924.9	5845.0	5868.7
12.5°	5780.9	5771.0	5907.1	5809.5	5818.4
15°	5711.9	5654.7	5647.8	5647.8	5675.4
17.5°	5559.1	5524.5	5556.1	5539.3	5530.5
20°	5464.4	5448.6	5480.2	5495.9	5462.4
22.5°	5374.7	5297.8	5378.6	5311.6	5331.3
25°	5047.3	4858.0	4865.9	4865.9	5005.9
27.5°	4438.0	4327.5	4188.5	4343.3	4471.5
30°	3824.7	3857.2	3687.6	3850.3	3841.4
32.5°	3329.7	3421.4	3449.0	3425.4	3305.1
35°	2854.5	3020.1	3255.8	3045.7	2879.1
37.5°	2504.4	2732.2	3063.5	2727.3	2533.0
40°	2209.6	2480.8	2880.1	2492.6	2217.5
42.5°	1987.8	2285.5	2717.4	2273.7	1993.7
45°	1806.3	2103.1	2538.9	2085.4	1807.3
47.5°	1650.6	1934.5	2326.0	1935.5	1650.6
50°	1521.4	1752.1	2087.4	1751.1	1522.4
52.5°	1400.1	1615.1	1884.2	1603.2	1404.1
55°	1302.5	1482.0	1697.9	1482.9	1295.6
57.5°	1195.0	1360.7	1508.6	1358.7	1200.0
60°	1093.5	1241.4	1351.8	1230.5	1093.5
62.5°	993.9	1132.9	1203.9	1133.9	995.9
65°	900.2	1031.4	1062.9	1026.4	900.2
67.5°	804.6	932.8	947.5	926.8	809.5
70°	721.8	849.9	855.8	841.1	720.8
72.5°	665.5	769.1	776.0	771.1	665.5
75°	619.2	703.0	719.8	699.1	617.2
77.5°	570.9	639.9	678.4	640.9	574.8
80°	529.5	580.8	635.0	581.7	528.5
82.5°	486.1	524.6	584.7	526.5	490.0
85°	424.0	460.5	512.7	460.5	423.0
87.5°	345.1	390.5	423.0	387.5	339.2
90°	311.6	323.4	339.2	317.5	302.7
92.5°	320.4	302.7	329.3	300.7	307.6
95°	265.2	269.2	319.5	274.1	267.2
97.5°	239.6	250.4	303.7	245.5	238.6
100°	211.0	228.8	273.1	224.8	212.0
102.5°	192.3	204.1	250.4	207.1	195.2
105°	164.7	168.6	211.0	165.6	162.7
107.5°	123.2	123.2	139.0	124.2	121.3
110°	81.8	77.9	83.8	75.9	81.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	43.4	41.4	48.3	40.4	42.4
115°	17.7	18.7	24.6	18.7	17.7
117.5°	4.9	7.9	8.9	7.9	4.9
120°	3.0	3.9	3.0	3.9	3.0
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)