

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: P294583

Luminaire Tested: **BMK-30-NCL-UNV-L850-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: P294583  
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-30-NCL-UNV-L850-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 80 CRI 5000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

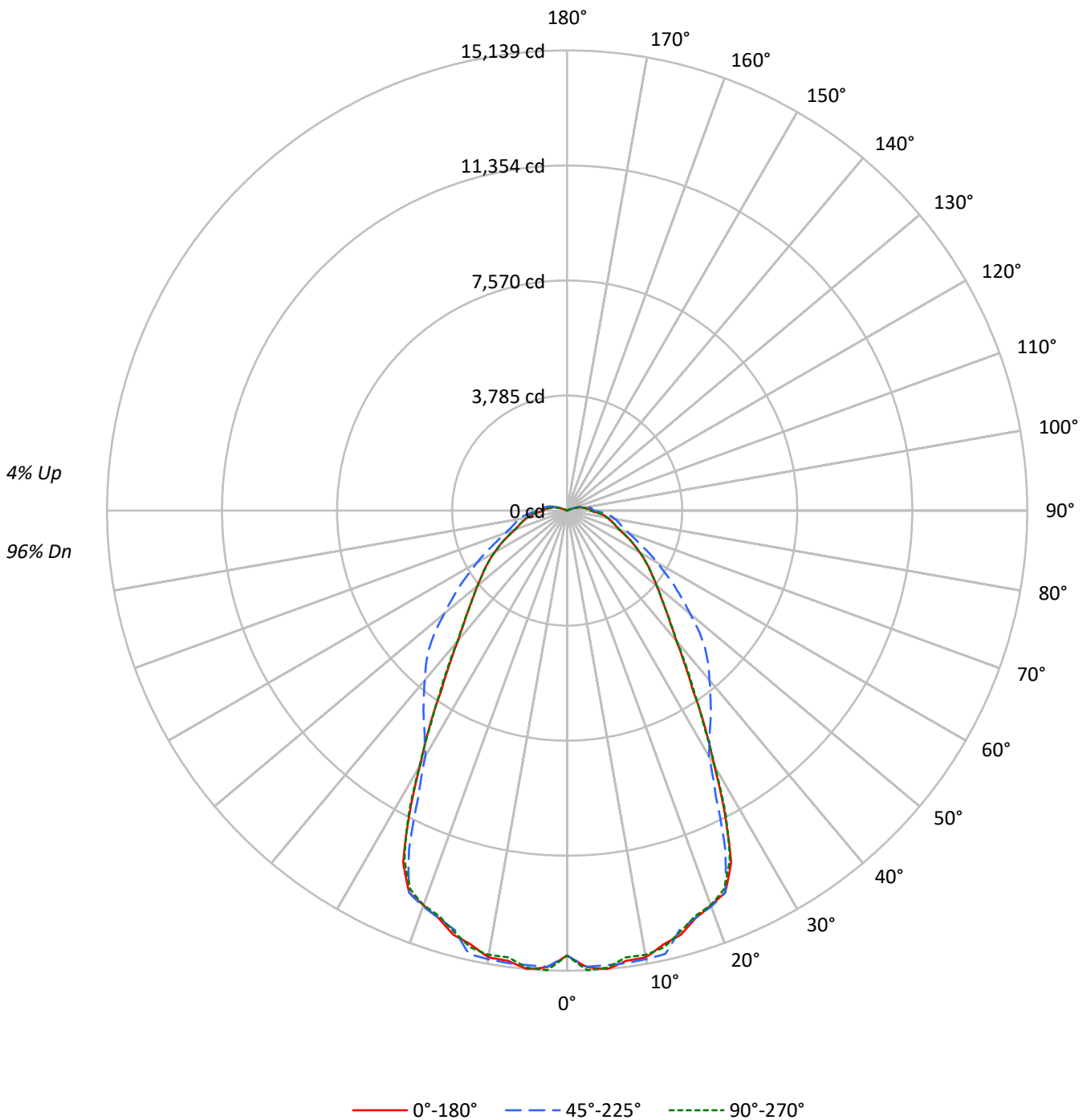
Lumens per Lamp: N/A  
Luminaire Lumens: 30409.0 lumens  
Efficiency: N/A  
Efficacy: 151.2 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 201.1  
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°	112861	112861	112861
5°	115941	114966	115616
10°	114400	114878	113788
15°	111717	110463	111003
20°	108653	108967	108614
25°	102853	99156	102009
30°	80552	77666	80905
35°	62698	71513	63239
40°	51117	66627	51299
45°	44494	62540	44518
50°	40398	55427	40424
55°	37826	49307	37625
60°	35332	43679	35332
65°	33066	39041	33066
70°	30981	36739	30939
75°	32269	37509	32166
80°	35451	42514	35384
85°	40115	48510	40022



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1424.9	4.7
10°-20°	4050.2	13.3
20°-30°	5559.3	18.3
30°-40°	4874.3	16.0
40°-50°	4171.7	13.7
50°-60°	3378.4	11.1
60°-70°	2534.0	8.3
70°-80°	1845.7	6.1
80°-90°	1263.4	4.2
90°-100°	781.1	2.6
100°-110°	453.4	1.5
110°-120°	71.6	0.2
120°-130°	1.0	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°	11034.4	36.3
0°-40°	15908.8	52.3
0°-60°	23458.8	77.1
0°-90°	29101.9	95.7
90°-120°	1306.1	4.3
90°-150°	1307.1	4.3
90°-180°	1307.0	4.3
0°-180°	30409.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	14640	14640	14640	14640	14640	
5°	15139	14999	15012	15042	15096	###
15°	14446	14301	14283	14283	14353	4058
25°	12765	12286	12306	12306	12660	5649
35°	7219	7638	8234	7703	7281	4599
45°	4568	5319	6421	5274	4571	3561
55°	3294	3748	4294	3750	3277	2943
65°	2277	2608	2688	2596	2277	2257
75°	1566	1778	1820	1768	1561	1658
85°	1072	1164	1297	1164	1070	928
90°	788	818	858	803	766	447
95°	671	681	808	693	676	531
105°	416	426	534	419	411	420
115°	45	47	62	47	45	69
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



TEST NUMBER: P294583

CATALOG NUMBER: BMK-30-NCL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	14640.0	14640.0	14640.0	14640.0	14640.0
2.5°	15039.0	14931.8	15021.5	15081.4	15136.2
5°	15138.7	14999.1	15011.5	15041.5	15096.3
7.5°	14939.2	14789.6	15011.5	14901.8	14824.5
10°	14921.8	14679.9	14984.1	14782.1	14842.0
12.5°	14620.1	14595.1	14939.2	14692.4	14714.8
15°	14445.5	14300.9	14283.4	14283.4	14353.2
17.5°	14059.0	13971.7	14051.5	14009.1	13986.7
20°	13819.6	13779.7	13859.5	13899.4	13814.6
22.5°	13592.7	13398.2	13602.7	13433.1	13483.0
25°	12764.8	12286.0	12306.0	12306.0	12660.1
27.5°	11223.7	10944.5	10592.9	10984.4	11308.5
30°	9672.7	9755.0	9326.1	9737.6	9715.1
32.5°	8420.9	8652.8	8722.7	8662.8	8358.6
35°	7219.0	7637.9	8233.9	7702.8	7281.3
37.5°	6333.8	6909.8	7747.7	6897.3	6406.1
40°	5588.2	6273.9	7283.8	6303.9	5608.1
42.5°	5027.1	5780.2	6872.4	5750.3	5042.1
45°	4568.3	5318.9	6421.1	5274.0	4570.8
47.5°	4174.3	4892.5	5882.4	4895.0	4174.3
50°	3847.6	4431.1	5279.0	4428.7	3850.1
52.5°	3540.9	4084.5	4765.3	4054.6	3550.9
55°	3294.1	3747.9	4294.0	3750.4	3276.6
57.5°	3022.3	3441.2	3815.2	3436.2	3034.7
60°	2765.4	3139.5	3418.7	3112.0	2765.4
62.5°	2513.6	2865.2	3044.7	2867.7	2518.5
65°	2276.7	2608.3	2688.1	2595.9	2276.7
67.5°	2034.8	2359.0	2396.4	2344.0	2047.3
70°	1825.3	2149.5	2164.5	2127.1	1822.8
72.5°	1683.2	1945.0	1962.5	1950.0	1683.2
75°	1566.0	1777.9	1820.3	1768.0	1561.0
77.5°	1443.8	1618.4	1715.6	1620.8	1453.8
80°	1339.1	1468.7	1605.9	1471.2	1336.6
82.5°	1229.4	1326.6	1478.7	1331.6	1239.3
85°	1072.3	1164.5	1296.7	1164.5	1069.8
87.5°	872.8	987.5	1069.8	980.0	857.8
90°	788.0	817.9	857.8	802.9	765.5
92.5°	810.4	765.5	832.9	760.6	778.0
95°	670.8	680.8	807.9	693.2	675.8
97.5°	605.9	633.4	768.0	620.9	603.5
100°	533.6	578.5	690.7	568.5	536.1
102.5°	486.3	516.2	633.4	523.7	493.7
105°	416.4	426.4	533.6	418.9	411.4
107.5°	311.7	311.7	351.6	314.2	306.7
110°	207.0	197.0	212.0	192.0	207.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	109.7	104.7	122.2	102.2	107.2
115°	44.9	47.4	62.3	47.4	44.9
117.5°	12.5	19.9	22.4	19.9	12.5
120°	7.5	10.0	7.5	10.0	7.5
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)