

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: P294575

Luminaire Tested: **BMK-24-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: P294575
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-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

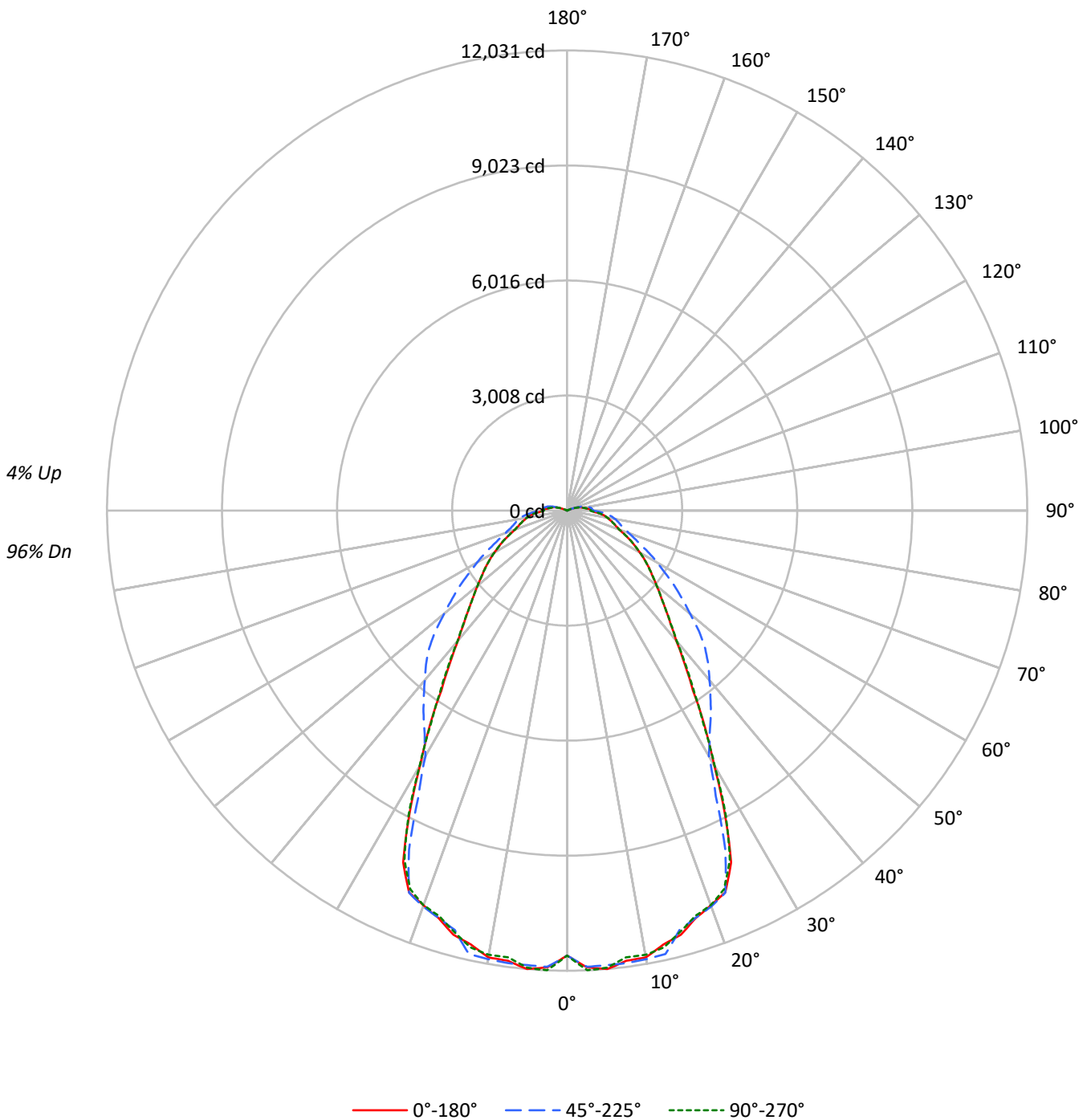
Lumens per Lamp: N/A
Luminaire Lumens: 24167.0 lumens
Efficiency: N/A
Efficacy: 155.4 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	89694	89694	89694
5°	92142	91368	91884
10°	90917	91298	90431
15°	88785	87789	88218
20°	86350	86600	86319
25°	81741	78803	81070
30°	64017	61724	64298
35°	49828	56833	50258
40°	40624	52951	40770
45°	35361	49702	35380
50°	32106	44050	32127
55°	30061	39186	29901
60°	28080	34714	28080
65°	26277	31027	26277
70°	24622	29198	24589
75°	25644	29811	25564
80°	28173	33785	28120
85°	31881	38551	31806



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1132.4	4.7
10°-20°	3218.8	13.3
20°-30°	4418.2	18.3
30°-40°	3873.8	16.0
40°-50°	3315.4	13.7
50°-60°	2684.9	11.1
60°-70°	2013.8	8.3
70°-80°	1466.8	6.1
80°-90°	1004.1	4.2
90°-100°	620.7	2.6
100°-110°	360.3	1.5
110°-120°	56.9	0.2
120°-130°	0.8	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°	8769.4	36.3
0°-40°	12643.2	52.3
0°-60°	18643.5	77.1
0°-90°	23128.2	95.7
90°-120°	1038.0	4.3
90°-150°	1038.8	4.3
90°-180°	1039.0	4.3
0°-180°	24167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11635	11635	11635	11635	11635	
5°	12031	11920	11930	11954	11998	###
15°	11480	11365	11352	11352	11407	3225
25°	10145	9764	9780	9780	10061	4489
35°	5737	6070	6544	6122	5787	3655
45°	3631	4227	5103	4191	3633	2830
55°	2618	2979	3413	2981	2604	2339
65°	1809	2073	2136	2063	1809	1794
75°	1244	1413	1447	1405	1241	1317
85°	852	926	1030	926	850	737
90°	626	650	682	638	608	355
95°	533	541	642	551	537	422
105°	331	339	424	333	327	334
115°	36	38	50	38	36	55
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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CATALOG NUMBER: BMK-24-NCL-UNV-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	11634.9	11634.9	11634.9	11634.9	11634.9
2.5°	11952.0	11866.7	11938.1	11985.6	12029.2
5°	12031.2	11920.2	11930.2	11953.9	11997.5
7.5°	11872.7	11753.8	11930.2	11843.0	11781.5
10°	11858.8	11666.6	11908.4	11747.8	11795.4
12.5°	11619.0	11599.2	11872.7	11676.5	11694.3
15°	11480.3	11365.4	11351.5	11351.5	11407.0
17.5°	11173.1	11103.8	11167.2	11133.5	11115.7
20°	10982.9	10951.2	11014.6	11046.3	10978.9
22.5°	10802.5	10648.0	10810.5	10675.7	10715.3
25°	10144.6	9764.1	9780.0	9780.0	10061.4
27.5°	8919.9	8697.9	8418.5	8729.6	8987.3
30°	7687.2	7752.6	7411.8	7738.7	7720.9
32.5°	6692.4	6876.7	6932.2	6884.6	6642.8
35°	5737.2	6070.1	6543.7	6121.6	5786.7
37.5°	5033.7	5491.4	6157.3	5481.5	5091.1
40°	4441.1	4986.1	5788.7	5009.9	4457.0
42.5°	3995.2	4593.7	5461.7	4569.9	4007.1
45°	3630.6	4227.1	5103.0	4191.4	3632.6
47.5°	3317.5	3888.2	4675.0	3890.2	3317.5
50°	3057.8	3521.6	4195.4	3519.6	3059.8
52.5°	2814.1	3246.1	3787.1	3222.3	2822.0
55°	2617.9	2978.6	3412.6	2980.6	2604.0
57.5°	2401.9	2734.8	3032.1	2730.9	2411.8
60°	2197.8	2495.0	2717.0	2473.2	2197.8
62.5°	1997.6	2277.0	2419.7	2279.0	2001.6
65°	1809.3	2072.9	2136.3	2063.0	1809.3
67.5°	1617.1	1874.7	1904.5	1862.8	1627.0
70°	1450.6	1708.3	1720.2	1690.4	1448.7
72.5°	1337.7	1545.8	1559.6	1549.7	1337.7
75°	1244.5	1413.0	1446.7	1405.1	1240.6
77.5°	1147.4	1286.2	1363.4	1288.1	1155.4
80°	1064.2	1167.3	1276.2	1169.2	1062.2
82.5°	977.0	1054.3	1175.2	1058.3	984.9
85°	852.2	925.5	1030.5	925.5	850.2
87.5°	693.6	784.8	850.2	778.8	681.7
90°	626.2	650.0	681.7	638.1	608.4
92.5°	644.1	608.4	661.9	604.4	618.3
95°	533.1	541.0	642.1	550.9	537.1
97.5°	481.6	503.4	610.4	493.5	479.6
100°	424.1	459.8	548.9	451.8	426.1
102.5°	386.4	410.2	503.4	416.2	392.4
105°	331.0	338.9	424.1	332.9	327.0
107.5°	247.7	247.7	279.4	249.7	243.8
110°	164.5	156.6	168.4	152.6	164.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	87.2	83.2	97.1	81.3	85.2
115°	35.7	37.7	49.5	37.7	35.7
117.5°	9.9	15.9	17.8	15.9	9.9
120°	5.9	7.9	5.9	7.9	5.9
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)