

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: P294539

Luminaire Tested: **BMK-24-NFL-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: P294539
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-NFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED 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: 23925.0 lumens
Efficiency: N/A
Efficacy: 153.9 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

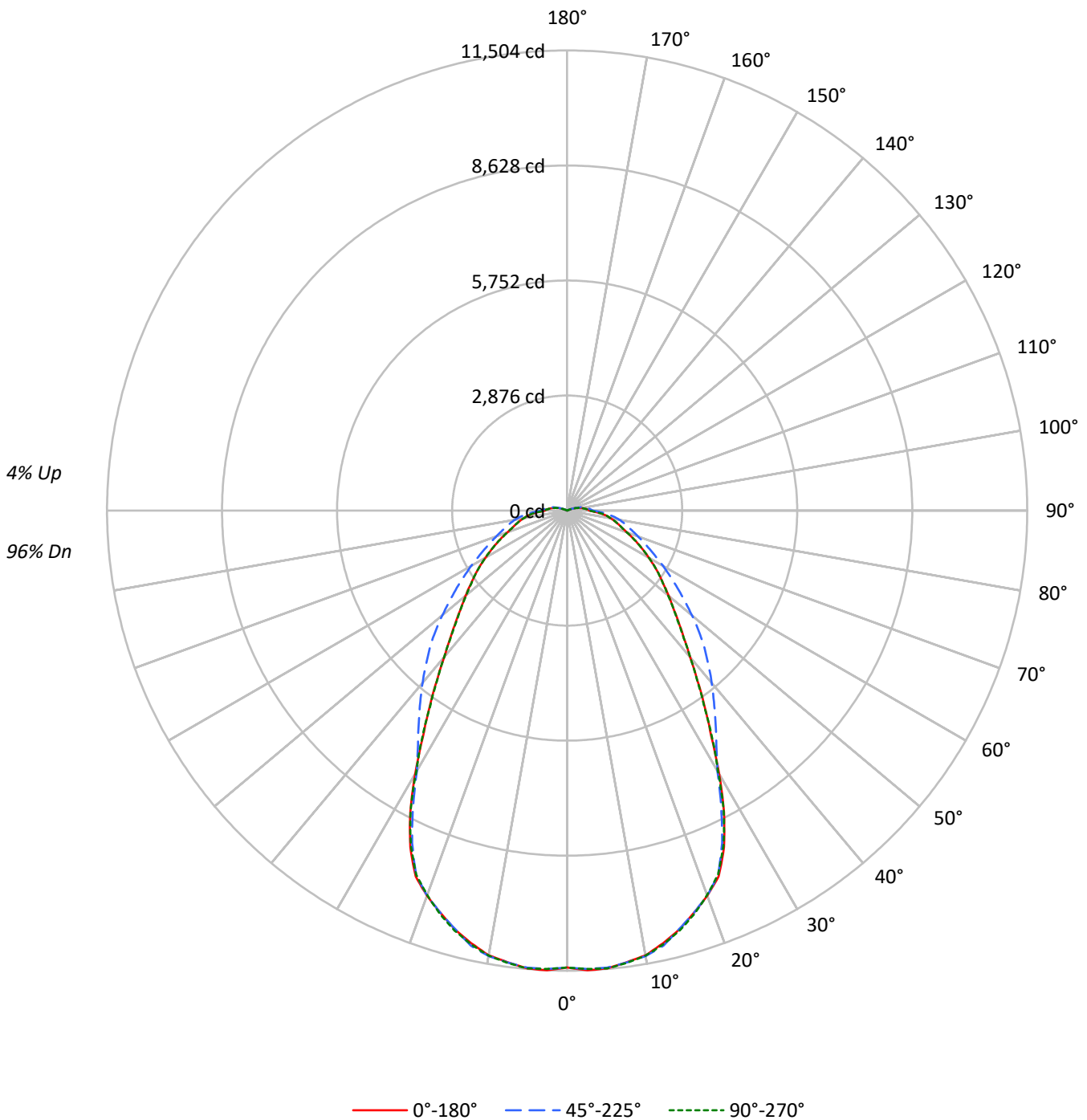
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	99	99	99	96		
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	87	84	82	87	84	82	80		
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	77	73	70	77	73	70	68		
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	69	65	61	69	65	61	59		
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	62	58	53	62	58	53	51		
5	77	65	57	50	75	64	56	50	61	55	49	59	53	48	57	52	47	57	52	47	57	52	47	45		
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	52	47	43	52	47	43	41		
7	67	54	46	40	65	53	46	40	52	45	40	50	44	39	48	43	38	48	43	38	48	43	38	37		
8	63	50	42	37	61	49	42	36	48	41	36	46	40	35	45	39	35	45	39	35	45	39	35	33		
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	42	36	32	42	36	32	30		
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	39	34	30	39	34	30	28		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	88049	88049	88049
5°	87978	87825	87978
10°	86553	86712	86598
15°	83823	83727	84059
20°	80569	80502	80399
25°	74786	73870	74482
30°	63287	62519	62876
35°	52084	56175	51931
40°	43701	51450	43749
45°	38350	47284	38059
50°	34821	42727	34583
55°	32308	38627	32293
60°	30097	35376	30172
65°	28399	32976	28240
70°	26960	31934	26850
75°	27309	32570	27322
80°	29288	35204	29306
85°	32057	38155	32446



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1087.7	4.5
10°-20°	3047.2	12.7
20°-30°	4165.7	17.4
30°-40°	3912.7	16.4
40°-50°	3373.5	14.1
50°-60°	2768.0	11.6
60°-70°	2132.8	8.9
70°-80°	1562.7	6.5
80°-90°	1001.4	4.2
90°-100°	541.5	2.3
100°-110°	280.4	1.2
110°-120°	50.7	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°	8300.6	34.7
0°-40°	12213.2	51.0
0°-60°	18354.8	76.7
0°-90°	23051.6	96.3
90°-120°	872.6	3.6
90°-150°	873.4	3.7
90°-180°	873.0	3.6
0°-180°	23925.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11421	11421	11421	11421	11421	
5°	11488	11480	11468	11462	11488	###
15°	10839	10814	10826	10820	10869	3048
25°	9282	9180	9168	9144	9244	4198
35°	5997	6212	6468	6198	5979	3774
45°	3938	4323	4855	4309	3908	3061
55°	2814	3075	3364	3073	2812	2521
65°	1955	2174	2270	2169	1944	1941
75°	1325	1491	1581	1486	1326	1407
85°	857	919	1020	915	867	749
90°	556	600	641	607	555	320
95°	471	484	546	483	471	363
105°	254	257	300	259	255	265
115°	29	38	49	38	29	44
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°	11421.4	11421.4	11421.4	11421.4	11421.4
2.5°	11504.5	11483.1	11471.4	11458.4	11469.5
5°	11487.6	11479.9	11467.5	11462.3	11487.6
7.5°	11386.3	11379.2	11395.4	11368.1	11406.4
10°	11289.5	11266.1	11310.3	11218.7	11295.4
12.5°	11077.1	11093.3	11140.1	11075.1	11105.0
15°	10838.7	10814.0	10826.3	10819.8	10869.2
17.5°	10541.1	10525.5	10539.8	10522.9	10574.9
20°	10247.5	10228.0	10239.0	10229.3	10226.0
22.5°	9899.3	9836.9	9862.2	9792.7	9853.8
25°	9281.5	9179.5	9167.8	9143.7	9243.8
27.5°	8494.7	8393.4	8336.2	8360.9	8482.4
30°	7599.5	7593.7	7507.3	7563.8	7550.2
32.5°	6710.8	6881.7	6937.5	6878.4	6750.4
35°	5996.9	6211.9	6467.9	6198.2	5979.3
37.5°	5348.5	5653.8	6027.4	5625.9	5331.6
40°	4777.5	5149.1	5624.6	5123.7	4782.7
42.5°	4316.2	4708.6	5222.5	4702.1	4311.0
45°	3937.5	4322.7	4854.8	4309.1	3907.6
47.5°	3590.6	3978.4	4467.6	3971.3	3589.9
50°	3316.4	3634.1	4069.4	3633.5	3293.7
52.5°	3042.3	3342.4	3695.2	3348.3	3030.6
55°	2813.6	3075.4	3363.9	3072.8	2812.3
57.5°	2584.3	2834.4	3050.1	2831.1	2587.5
60°	2355.6	2598.6	2768.8	2591.4	2361.5
62.5°	2146.4	2383.5	2499.2	2371.2	2151.6
65°	1955.4	2173.7	2270.5	2169.2	1944.4
67.5°	1765.7	1980.8	2068.5	1982.7	1759.9
70°	1588.4	1808.6	1881.4	1806.0	1581.9
72.5°	1442.9	1650.1	1722.2	1644.2	1442.9
75°	1325.3	1490.9	1580.6	1486.4	1325.9
77.5°	1211.6	1346.7	1454.6	1342.8	1220.7
80°	1106.3	1210.9	1329.8	1199.2	1107.0
82.5°	995.9	1064.1	1182.4	1058.9	1001.1
85°	856.9	918.6	1019.9	915.3	867.3
87.5°	694.5	765.3	822.4	765.3	703.6
90°	556.1	599.6	641.2	606.8	555.4
92.5°	526.9	541.2	595.1	543.1	528.2
95°	471.0	484.0	546.4	483.3	471.0
97.5°	418.4	430.7	493.7	428.8	415.8
100°	362.5	373.5	434.0	376.8	360.6
102.5°	311.8	320.3	371.6	320.9	311.2
105°	254.0	257.3	300.1	258.6	255.3
107.5°	188.4	192.3	214.4	194.9	191.6
110°	126.0	129.3	144.2	131.9	129.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71.5	75.4	94.2	76.0	70.2
115°	28.6	37.7	48.7	38.3	29.2
117.5°	7.8	14.3	17.5	14.3	8.4
120°	6.5	7.1	6.5	7.1	5.8
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)