

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: P294545

Luminaire Tested: **BMK-30-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: P294545
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-30-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

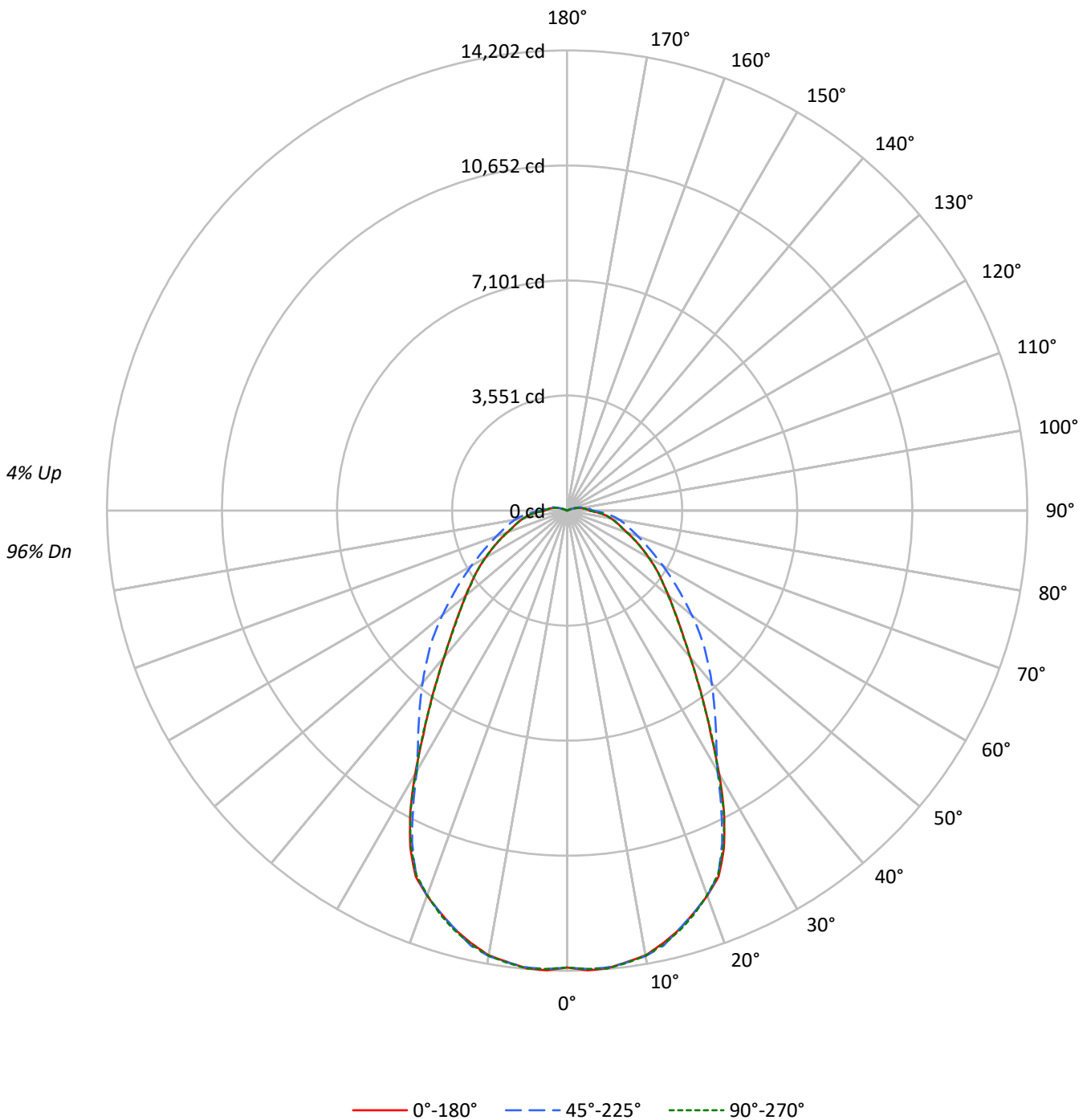
Lumens per Lamp: N/A
Luminaire Lumens: 29535.0 lumens
Efficiency: N/A
Efficacy: 146.9 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 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



TEST NUMBER: P294545
CATALOG NUMBER: BMK-30-NFL-UNV-L835-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P294545

CATALOG NUMBER: BMK-30-NFL-UNV-L835-CD-U

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	108694	108694	108694
5°	108608	108418	108608
10°	106848	107045	106903
15°	103477	103360	103769
20°	99460	99378	99252
25°	92322	91191	91947
30°	78127	77178	77619
35°	64296	69347	64109
40°	53948	63514	54007
45°	47343	58372	46983
50°	42986	52746	42691
55°	39883	47684	39865
60°	37154	43671	37246
65°	35058	40708	34861
70°	33281	39421	33146
75°	33711	40207	33728
80°	36157	43459	36179
85°	39573	47104	40052



TEST NUMBER: P294545

CATALOG NUMBER: BMK-30-NFL-UNV-L835-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1342.8	4.5
10°-20°	3761.7	12.7
20°-30°	5142.4	17.4
30°-40°	4830.1	16.4
40°-50°	4164.6	14.1
50°-60°	3417.0	11.6
60°-70°	2632.8	8.9
70°-80°	1929.1	6.5
80°-90°	1236.2	4.2
90°-100°	668.4	2.3
100°-110°	346.2	1.2
110°-120°	62.6	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°	10246.9	34.7
0°-40°	15077.0	51.0
0°-60°	22658.6	76.7
0°-90°	28456.8	96.3
90°-120°	1077.2	3.6
90°-150°	1078.2	3.7
90°-180°	1078.0	3.6
0°-180°	29535.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	14100	14100	14100	14100	14100	
5°	14181	14172	14156	14150	14181	###
15°	13380	13350	13365	13357	13418	3763
25°	11458	11332	11318	11288	11411	5183
35°	7403	7668	7984	7652	7381	4658
45°	4861	5336	5993	5320	4824	3779
55°	3473	3796	4153	3793	3472	3112
65°	2414	2683	2803	2678	2400	2396
75°	1636	1840	1951	1835	1637	1737
85°	1058	1134	1259	1130	1071	925
90°	686	740	792	749	686	395
95°	581	598	674	597	581	449
105°	314	318	370	319	315	327
115°	35	46	60	47	36	54
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: P294545

CATALOG NUMBER: BMK-30-NFL-UNV-L835-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	14099.5	14099.5	14099.5	14099.5	14099.5
2.5°	14202.2	14175.7	14161.3	14145.2	14158.8
5°	14181.3	14171.7	14156.4	14150.0	14181.3
7.5°	14056.2	14047.4	14067.4	14033.7	14081.1
10°	13936.7	13907.8	13962.4	13849.3	13943.9
12.5°	13674.5	13694.5	13752.2	13672.0	13708.9
15°	13380.1	13349.7	13364.9	13356.9	13417.8
17.5°	13012.8	12993.6	13011.2	12990.4	13054.5
20°	12650.3	12626.3	12639.9	12627.9	12623.9
22.5°	12220.5	12143.5	12174.8	12089.0	12164.3
25°	11457.8	11331.9	11317.5	11287.8	11411.3
27.5°	10486.6	10361.5	10290.9	10321.4	10471.4
30°	9381.5	9374.3	9267.6	9337.4	9320.5
32.5°	8284.4	8495.3	8564.3	8491.3	8333.3
35°	7403.0	7668.5	7984.5	7651.6	7381.4
37.5°	6602.7	6979.6	7440.7	6945.1	6581.8
40°	5897.7	6356.4	6943.5	6325.2	5904.1
42.5°	5328.3	5812.7	6447.1	5804.7	5321.9
45°	4860.8	5336.3	5993.2	5319.5	4823.9
47.5°	4432.5	4911.3	5515.2	4902.5	4431.7
50°	4094.1	4486.2	5023.6	4485.4	4066.0
52.5°	3755.6	4126.2	4561.6	4133.4	3741.2
55°	3473.3	3796.5	4152.6	3793.3	3471.7
57.5°	3190.3	3499.0	3765.3	3495.0	3194.3
60°	2908.0	3207.9	3418.0	3199.1	2915.2
62.5°	2649.7	2942.4	3085.2	2927.2	2656.1
65°	2413.9	2683.4	2802.9	2677.8	2400.3
67.5°	2179.8	2445.2	2553.5	2447.6	2172.5
70°	1960.8	2232.7	2322.5	2229.5	1952.8
72.5°	1781.2	2037.0	2126.0	2029.8	1781.2
75°	1636.0	1840.5	1951.2	1834.9	1636.8
77.5°	1495.7	1662.5	1795.6	1657.7	1506.9
80°	1365.8	1494.9	1641.6	1480.4	1366.6
82.5°	1229.4	1313.6	1459.6	1307.2	1235.8
85°	1057.8	1134.0	1259.1	1130.0	1070.6
87.5°	857.3	944.7	1015.3	944.7	868.5
90°	686.5	740.2	791.5	749.0	685.7
92.5°	650.4	668.0	734.6	670.5	652.0
95°	581.4	597.5	674.5	596.7	581.4
97.5°	516.5	531.7	609.5	529.3	513.3
100°	447.5	461.1	535.7	465.1	445.1
102.5°	384.9	395.4	458.7	396.2	384.1
105°	313.6	317.6	370.5	319.2	315.2
107.5°	232.6	237.4	264.7	240.6	236.6
110°	155.6	159.6	178.0	162.8	159.6



TEST NUMBER: P294545

CATALOG NUMBER: BMK-30-NFL-UNV-L835-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	88.2	93.0	116.3	93.8	86.6
115°	35.3	46.5	60.1	47.3	36.1
117.5°	9.6	17.6	21.7	17.6	10.4
120°	8.0	8.8	8.0	8.8	7.2
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)