

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: P294586

Luminaire Tested: **BMK-36-NCL-UNV-L750-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: P294586
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-36-NCL-UNV-L750-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 70 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 38921.0 lumens
Efficiency: N/A
Efficacy: 160.2 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

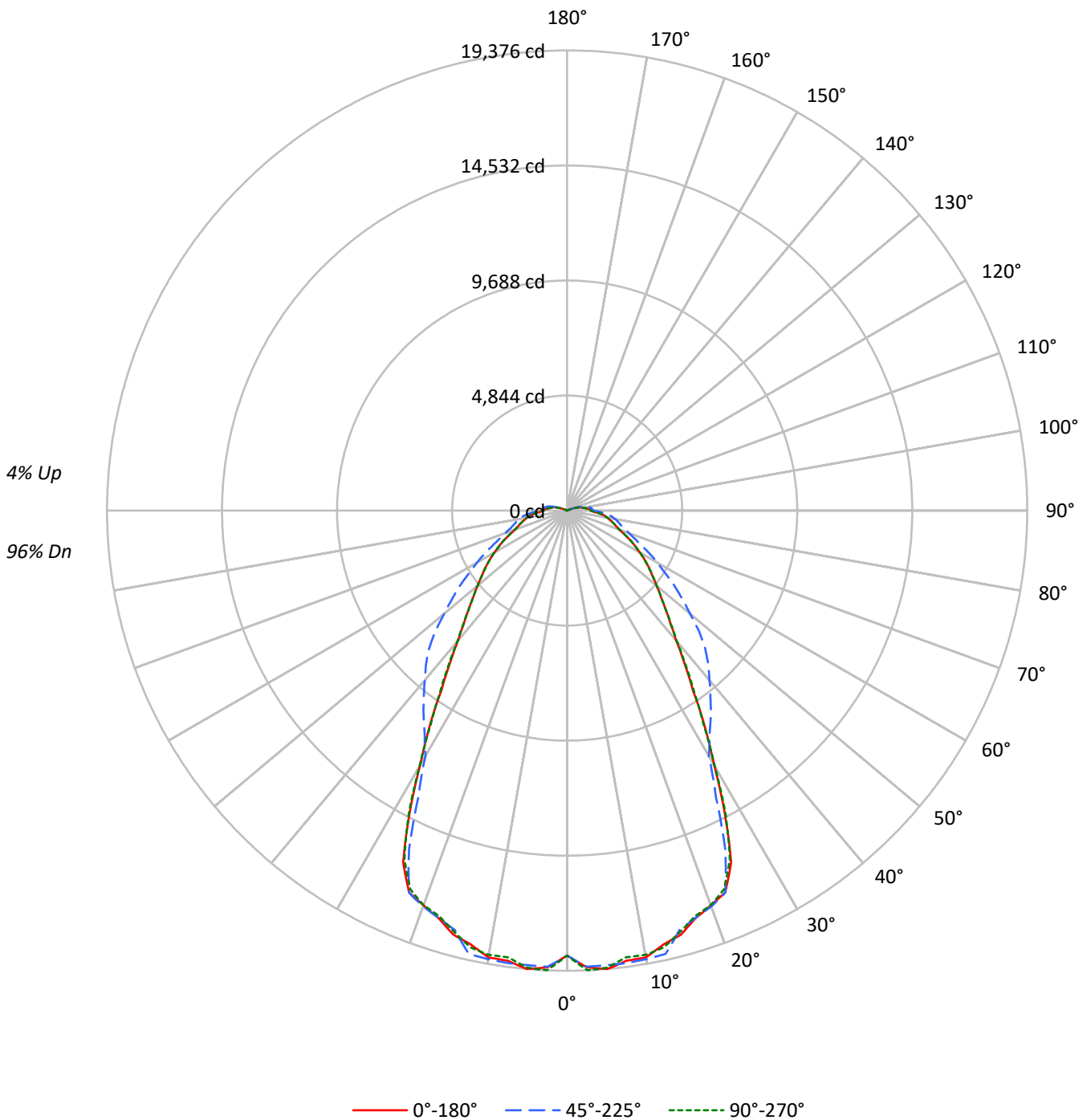
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P294586

CATALOG NUMBER: BMK-36-NCL-UNV-L750-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P294586

CATALOG NUMBER: BMK-36-NCL-UNV-L750-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	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°	144453	144453	144453
5°	148395	147148	147979
10°	146422	147034	145640
15°	142988	141384	142075
20°	139067	139469	139017
25°	131643	126911	130563
30°	103100	99405	103552
35°	80248	91530	80941
40°	65425	85278	65658
45°	56948	80045	56979
50°	51707	70943	51741
55°	48413	63110	48157
60°	45223	55907	45223
65°	42320	49970	42320
70°	39655	47021	39601
75°	41301	48010	41171
80°	45373	54413	45288
85°	51342	62086	51222



TEST NUMBER: P294586

CATALOG NUMBER: BMK-36-NCL-UNV-L750-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1823.8	4.7
10°-20°	5183.9	13.3
20°-30°	7115.5	18.3
30°-40°	6238.7	16.0
40°-50°	5339.4	13.7
50°-60°	4324.0	11.1
60°-70°	3243.3	8.3
70°-80°	2362.3	6.1
80°-90°	1617.0	4.2
90°-100°	999.7	2.6
100°-110°	580.3	1.5
110°-120°	91.7	0.2
120°-130°	1.3	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°	14123.2	36.3
0°-40°	20361.9	52.3
0°-60°	30025.4	77.1
0°-90°	37248.0	95.7
90°-120°	1671.7	4.3
90°-150°	1673.0	4.3
90°-180°	1673.0	4.3
0°-180°	38921.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	18738	18738	18738	18738	18738	
5°	19376	19198	19214	19252	19322	###
15°	18489	18304	18282	18282	18371	5195
25°	16338	15725	15751	15751	16204	7230
35°	9240	9776	10539	9859	9320	5886
45°	5847	6808	8218	6750	5850	4558
55°	4216	4797	5496	4800	4194	3767
65°	2914	3338	3441	3322	2914	2889
75°	2004	2276	2330	2263	1998	2122
85°	1372	1490	1660	1490	1369	1187
90°	1009	1047	1098	1028	980	572
95°	858	871	1034	887	865	680
105°	533	546	683	536	527	538
115°	57	61	80	61	57	89
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: P294586

CATALOG NUMBER: BMK-36-NCL-UNV-L750-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	18738.0	18738.0	18738.0	18738.0	18738.0
2.5°	19248.6	19111.4	19226.3	19302.9	19373.1
5°	19376.3	19197.6	19213.5	19251.8	19322.1
7.5°	19121.0	18929.5	19213.5	19073.1	18974.2
10°	19098.6	18789.1	19178.4	18919.9	18996.5
12.5°	18712.5	18680.5	19121.0	18805.0	18833.7
15°	18489.0	18303.9	18281.6	18281.6	18370.9
17.5°	17994.3	17882.6	17984.8	17930.5	17901.8
20°	17687.9	17636.9	17739.0	17790.1	17681.6
22.5°	17397.5	17148.6	17410.3	17193.2	17257.1
25°	16337.9	15725.1	15750.6	15750.6	16203.8
27.5°	14365.5	14008.0	13558.0	14059.1	14474.0
30°	12380.3	12485.6	11936.6	12463.3	12434.5
32.5°	10778.1	11074.9	11164.3	11087.7	10698.3
35°	9239.7	9775.9	10538.7	9858.9	9319.5
37.5°	8106.7	8844.0	9916.4	8828.0	8199.3
40°	7152.4	8030.1	9322.7	8068.4	7177.9
42.5°	6434.3	7398.2	8796.1	7359.9	6453.5
45°	5847.0	6807.7	8218.4	6750.3	5850.2
47.5°	5342.8	6262.0	7529.0	6265.1	5342.8
50°	4924.7	5671.5	6756.7	5668.3	4927.9
52.5°	4532.1	5227.9	6099.2	5189.6	4544.9
55°	4216.1	4797.0	5496.0	4800.2	4193.8
57.5°	3868.2	4404.4	4883.2	4398.0	3884.2
60°	3539.5	4018.2	4375.7	3983.1	3539.5
62.5°	3217.2	3667.2	3897.0	3670.4	3223.5
65°	2913.9	3338.4	3440.6	3322.5	2913.9
67.5°	2604.4	3019.3	3067.1	3000.1	2620.3
70°	2336.3	2751.2	2770.3	2722.4	2333.1
72.5°	2154.3	2489.5	2511.8	2495.8	2154.3
75°	2004.3	2275.6	2329.9	2262.9	1998.0
77.5°	1847.9	2071.4	2195.8	2074.6	1860.7
80°	1713.9	1879.9	2055.4	1883.1	1710.7
82.5°	1573.5	1697.9	1892.6	1704.3	1586.2
85°	1372.4	1490.5	1659.6	1490.5	1369.2
87.5°	1117.1	1263.9	1369.2	1254.3	1097.9
90°	1008.6	1046.9	1097.9	1027.7	979.8
92.5°	1037.3	979.8	1066.0	973.4	995.8
95°	858.5	871.3	1034.1	887.3	864.9
97.5°	775.6	810.7	983.0	794.7	772.4
100°	683.0	740.5	884.1	727.7	686.2
102.5°	622.4	660.7	810.7	670.2	631.9
105°	533.0	545.8	683.0	536.2	526.6
107.5°	399.0	399.0	450.0	402.1	392.6
110°	264.9	252.1	271.3	245.8	264.9



TEST NUMBER: P294586

CATALOG NUMBER: BMK-36-NCL-UNV-L750-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	140.4	134.0	156.4	130.9	137.2
115°	57.4	60.6	79.8	60.6	57.4
117.5°	16.0	25.5	28.7	25.5	16.0
120°	9.6	12.8	9.6	12.8	9.6
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)