

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: P381689

Luminaire Tested: **BMK-70-NFL-UNV-L750-CD-U**

Issue Date: 2/4/2020

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: P381689
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-4)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NFL-UNV-L750-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

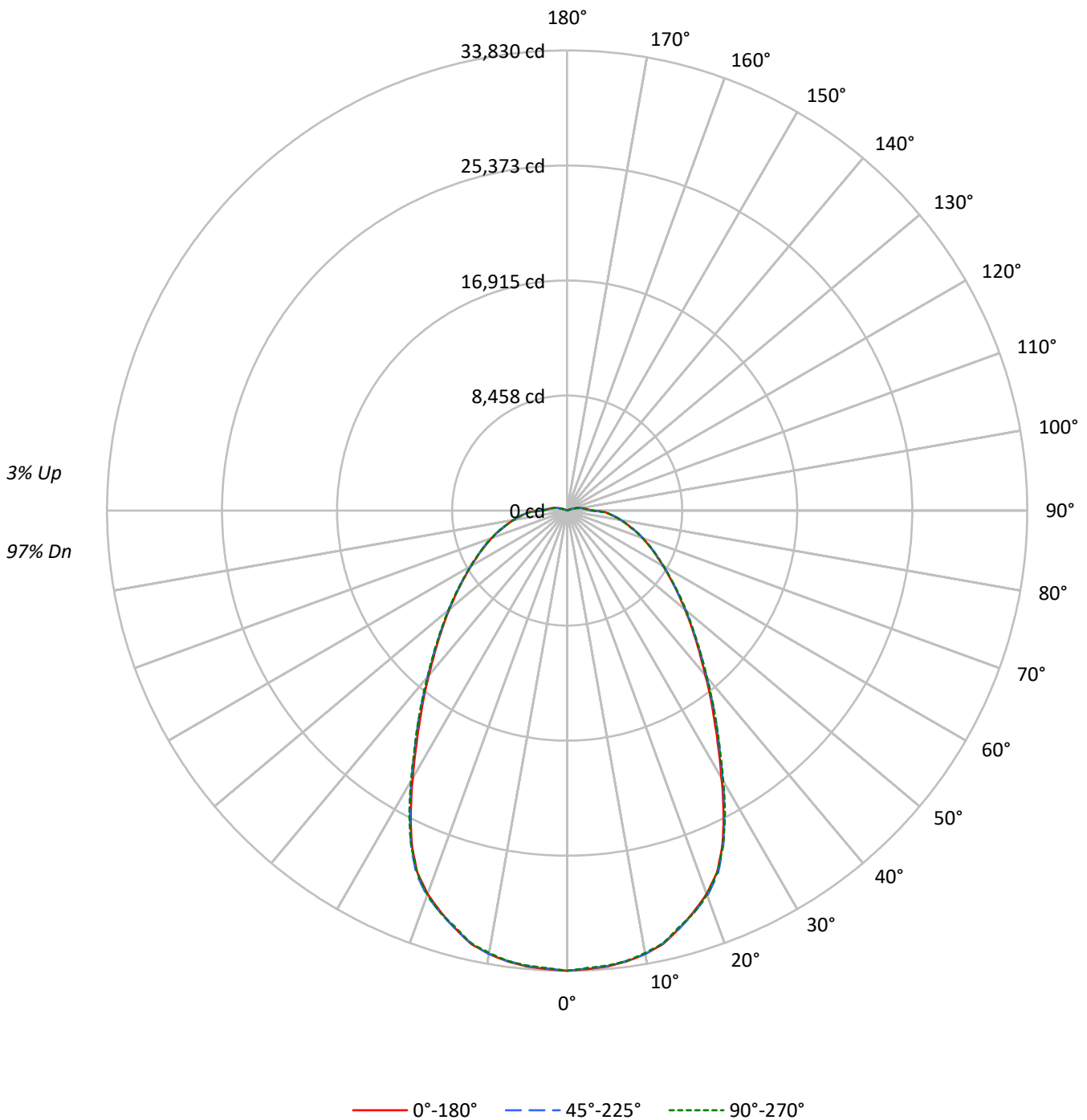
Lumens per Lamp: N/A
Luminaire Lumens: 73554.6 lumens
Efficiency: N/A
Efficacy: 146.9 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): 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	104	104	104	99	99	99	99	99	99	97	
1	107	102	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	86	84	82	80	
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	76	73	70	67	
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	68	64	60	58	
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	62	57	52	50	
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	56	51	46	44	
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	51	46	42	39	
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	47	42	37	36	
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	44	38	34	32	
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	41	35	31	29	
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	38	33	29	27	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	260931	260931	260931
5°	257888	257522	257275
10°	253838	253956	253283
15°	246088	246279	245457
20°	235891	236993	236351
25°	217863	218930	218669
30°	189104	190451	191080
35°	163981	166015	166122
40°	144688	145885	146138
45°	129938	130853	131048
50°	118683	119282	119702
55°	110098	110575	110788
60°	103987	104557	104872
65°	100959	101608	101228
70°	100292	100789	100188
75°	100684	101732	100781
80°	105952	106889	105748
85°	119764	120512	119187



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3191.4	4.3
10°-20°	8949.6	12.2
20°-30°	12325.4	16.8
30°-40°	11952.7	16.3
40°-50°	10401.7	14.1
50°-60°	8652.8	11.8
60°-70°	6945.2	9.4
70°-80°	5213.4	7.1
80°-90°	3404.4	4.6
90°-100°	1537.9	2.1
100°-110°	729.8	1.0
110°-120°	117.1	0.2
120°-130°	32.5	0.0
130°-140°	36.2	0.0
140°-150°	31.5	0.0
150°-160°	18.2	0.0
160°-170°	11.0	0.0
170°-180°	3.8	0.0
0°-30°	24466.4	33.3
0°-40°	36419.2	49.5
0°-60°	55473.6	75.4
0°-90°	71036.6	96.6
90°-120°	2384.7	3.2
90°-150°	2484.9	3.4
90°-180°	2518.0	3.4
0°-180°	73554.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	33830	33830	33830	33830	33830	
5°	33656	33546	33609	33664	33576	###
15°	31805	31698	31829	31852	31723	8947
25°	27025	27024	27158	27202	27125	12286
35°	18872	18933	19106	19106	19118	11867
45°	13335	13390	13429	13449	13449	10342
55°	9584	9602	9625	9648	9644	8616
65°	6948	6968	6993	6996	6967	6909
75°	4884	4912	4935	4913	4889	5200
85°	3200	3228	3220	3179	3185	2777
90°	1953	1890	1733	1860	1901	1133
95°	1398	1402	1398	1368	1378	1074
105°	700	696	691	682	680	740
115°	83	82	82	78	77	120
125°	35	37	35	37	38	32
135°	46	48	46	48	48	36
145°	52	51	51	51	51	32
155°	37	38	37	37	37	18
165°	40	40	38	38	38	11
175°	38	40	38	40	40	4
180°	40	40	40	40	40	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	33830.3	33830.3	33830.3	33830.3	33830.3
2.5°	33745.7	33654.9	33688.7	33747.2	33659.5
5°	33656.4	33545.6	33608.7	33664.1	33576.4
7.5°	33436.3	33322.4	33400.9	33490.2	33400.9
10°	33093.0	32989.9	33108.4	33119.2	33020.7
12.5°	32631.2	32517.3	32582.0	32622.0	32585.1
15°	31804.6	31698.4	31829.3	31852.4	31723.1
17.5°	30931.9	30894.9	30991.9	31047.3	30998.1
20°	29988.3	30014.5	30128.4	30140.7	30046.8
22.5°	28784.6	28763.0	28927.7	28907.7	28823.1
25°	27025.2	27023.6	27157.6	27202.2	27125.2
27.5°	24894.8	24844.0	25036.4	25036.4	25130.3
30°	22696.7	22665.9	22858.3	22870.7	22933.8
32.5°	20674.1	20726.4	20874.2	20906.5	20901.9
35°	18871.6	18933.2	19105.6	19105.6	19117.9
37.5°	17295.4	17343.1	17446.2	17500.1	17477.0
40°	15810.0	15873.1	15940.8	16002.4	15968.5
42.5°	14498.5	14537.0	14640.1	14681.7	14638.6
45°	13334.8	13390.2	13428.7	13448.7	13448.7
47.5°	12272.7	12281.9	12349.7	12351.2	12372.7
50°	11298.3	11273.7	11355.3	11332.2	11395.3
52.5°	10405.5	10410.2	10444.0	10457.9	10501.0
55°	9583.6	9602.0	9625.1	9648.2	9643.6
57.5°	8827.8	8857.0	8889.4	8906.3	8880.1
60°	8135.1	8189.0	8179.7	8219.8	8204.4
62.5°	7514.8	7565.6	7570.2	7590.2	7568.6
65°	6948.3	6968.3	6993.0	6996.0	6966.8
67.5°	6412.6	6431.1	6466.5	6458.8	6420.3
70°	5906.2	5913.9	5935.5	5938.5	5900.1
72.5°	5402.9	5407.5	5422.9	5419.8	5393.6
75°	4884.1	4911.8	4934.9	4913.4	4888.8
77.5°	4448.5	4451.6	4468.5	4436.2	4440.8
80°	4000.6	4019.1	4036.0	3986.7	3992.9
82.5°	3600.4	3620.4	3631.2	3571.1	3578.8
85°	3200.2	3227.9	3220.2	3178.6	3184.8
87.5°	2796.9	2766.1	2744.5	2727.6	2735.3
90°	1953.3	1890.2	1733.2	1859.5	1901.0
92.5°	1567.0	1590.1	1568.5	1543.9	1567.0
95°	1397.7	1402.3	1397.7	1368.4	1377.7
97.5°	1233.0	1245.3	1233.0	1203.7	1214.5
100°	1059.0	1062.1	1054.4	1035.9	1043.6
102.5°	885.1	888.2	877.4	865.1	868.2
105°	700.4	695.8	691.1	681.9	680.4
107.5°	504.9	504.9	497.2	488.0	494.1
110°	330.9	326.3	309.4	312.5	315.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	175.5	177.0	180.1	170.9	164.7
115°	83.1	81.6	81.6	78.5	77.0
117.5°	36.9	36.9	33.9	35.4	36.9
120°	29.2	30.8	29.2	29.2	32.3
122.5°	32.3	33.9	32.3	33.9	35.4
125°	35.4	36.9	35.4	36.9	38.5
127.5°	38.5	40.0	38.5	40.0	40.0
130°	41.6	43.1	41.6	41.6	43.1
132.5°	43.1	44.6	44.6	44.6	44.6
135°	46.2	47.7	46.2	47.7	47.7
137.5°	49.3	49.3	49.3	49.3	49.3
140°	50.8	50.8	50.8	50.8	50.8
142.5°	52.3	52.3	52.3	52.3	50.8
145°	52.3	50.8	50.8	50.8	50.8
147.5°	49.3	49.3	49.3	49.3	47.7
150°	44.6	44.6	44.6	44.6	44.6
152.5°	40.0	41.6	40.0	40.0	40.0
155°	36.9	38.5	36.9	36.9	36.9
157.5°	38.5	38.5	36.9	36.9	38.5
160°	38.5	38.5	38.5	38.5	38.5
162.5°	40.0	40.0	38.5	38.5	38.5
165°	40.0	40.0	38.5	38.5	38.5
167.5°	40.0	40.0	38.5	38.5	38.5
170°	40.0	40.0	38.5	38.5	38.5
172.5°	40.0	40.0	40.0	40.0	40.0
175°	38.5	40.0	38.5	40.0	40.0
177.5°	38.5	38.5	38.5	40.0	41.6
180°	40.0	40.0	40.0	40.0	40.0

(END OF REPORT)