

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: P381674

Luminaire Tested: **BMK-70-NCL-UNV-L850-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: P381674
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

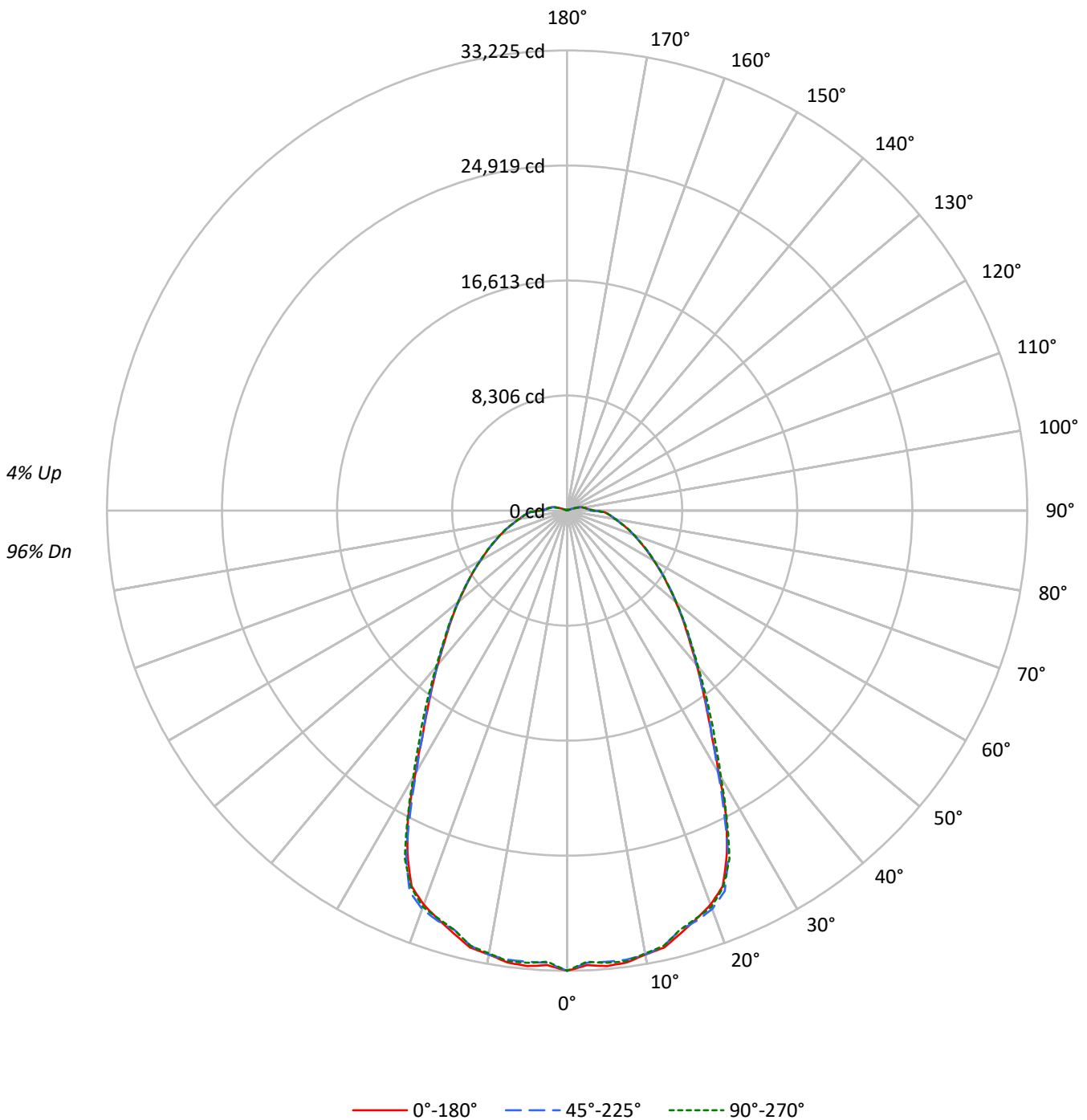
Lumens per Lamp: N/A
Luminaire Lumens: 69375.0 lumens
Efficiency: N/A
Efficacy: 138.6 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (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	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80				
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68				
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58				
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51				
5	77	65	57	50	75	64	56	50	61	54	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	40				
7	67	54	46	40	65	54	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	36	45	39	35	33				
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30				
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	256259	256259	256259
5°	252922	250595	251155
10°	249628	249727	249013
15°	244595	242722	242611
20°	238125	240830	239523
25°	219962	221683	223519
30°	182451	181233	184981
35°	152789	153723	156535
40°	133074	133323	134569
45°	118298	119316	119457
50°	107483	107830	108070
55°	98986	99215	99233
60°	92358	92797	92559
65°	88334	88667	89062
70°	86838	87106	87325
75°	87557	87291	87912
80°	93478	93896	93136
85°	111452	111021	111987



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3125.4	4.5
10°-20°	8904.6	12.8
20°-30°	12383.7	17.9
30°-40°	11163.6	16.1
40°-50°	9461.7	13.6
50°-60°	7743.8	11.2
60°-70°	6087.2	8.8
70°-80°	4527.3	6.5
80°-90°	3153.0	4.5
90°-100°	1631.9	2.4
100°-110°	913.1	1.3
110°-120°	133.6	0.2
120°-130°	36.1	0.1
130°-140°	40.1	0.1
140°-150°	34.6	0.0
150°-160°	19.7	0.0
160°-170°	11.7	0.0
170°-180°	4.0	0.0
0°-30°	24413.7	35.2
0°-40°	35577.4	51.3
0°-60°	52782.8	76.1
0°-90°	66550.2	95.9
90°-120°	2678.6	3.9
90°-150°	2789.4	4.0
90°-180°	2825.0	4.1
0°-180°	69375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	33225	33225	33225	33225	33225	
5°	33008	32718	32705	32874	32778	###
15°	31612	31431	31370	31594	31355	8914
25°	27286	27363	27499	27754	27727	12331
35°	17584	17561	17691	17744	18015	11102
45°	12140	12163	12245	12170	12259	9421
55°	8616	8575	8636	8636	8638	7739
65°	6079	6075	6102	6170	6130	6050
75°	4247	4262	4234	4263	4264	4522
85°	2978	2985	2967	2957	2992	2543
90°	1950	1855	1698	1831	1908	1126
95°	1457	1470	1506	1435	1428	1156
105°	920	911	902	881	892	919
115°	89	87	87	83	86	136
125°	40	42	40	40	42	35
135°	52	53	52	52	53	40
145°	57	56	57	56	56	35
155°	40	42	40	40	40	20
165°	43	42	42	42	42	12
175°	42	42	42	42	43	4
180°	42	42	42	42	42	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	33224.6	33224.6	33224.6	33224.6	33224.6
2.5°	32850.8	32690.3	32678.9	32726.1	32601.5
5°	33008.3	32717.5	32704.7	32873.7	32777.7
7.5°	32908.1	32666.0	32706.1	32902.3	32812.1
10°	32544.2	32445.4	32557.1	32723.3	32464.0
12.5°	32319.3	32181.8	32181.8	32206.2	32193.3
15°	31611.7	31431.2	31369.6	31594.5	31355.3
17.5°	30942.7	30785.1	31054.5	30987.1	30886.9
20°	30272.3	30362.6	30616.1	30478.6	30450.0
22.5°	29358.4	29391.4	29733.7	29739.4	29437.2
25°	27285.6	27363.0	27499.1	27754.0	27726.8
27.5°	24844.7	24545.3	24532.4	25099.7	24922.1
30°	21898.1	21816.5	21752.0	22177.5	22201.8
32.5°	19483.0	19568.9	19478.7	19710.7	19927.0
35°	17583.5	17560.6	17691.0	17744.0	18014.7
37.5°	15967.7	15947.7	15999.2	16161.1	16235.6
40°	14541.0	14541.0	14568.2	14730.1	14704.3
42.5°	13213.1	13339.1	13332.0	13377.8	13380.7
45°	12140.2	12163.1	12244.7	12170.2	12259.1
47.5°	11153.2	11114.5	11219.1	11133.1	11211.9
50°	10232.1	10164.8	10265.1	10171.9	10288.0
52.5°	9371.2	9298.1	9429.9	9335.4	9419.9
55°	8616.3	8574.7	8636.3	8636.3	8637.8
57.5°	7901.5	7892.9	7894.3	7951.6	7941.6
60°	7225.4	7259.7	7259.7	7299.9	7241.1
62.5°	6629.5	6642.3	6686.8	6709.7	6659.5
65°	6079.4	6075.1	6102.3	6169.6	6129.5
67.5°	5556.5	5573.7	5593.8	5664.0	5588.1
70°	5113.9	5109.6	5129.7	5175.5	5142.6
72.5°	4684.2	4675.6	4691.3	4714.2	4712.8
75°	4247.3	4261.6	4234.4	4263.0	4264.5
77.5°	3867.7	3864.8	3863.4	3849.0	3877.7
80°	3529.6	3526.7	3545.4	3508.1	3516.7
82.5°	3247.4	3243.1	3264.6	3214.5	3223.1
85°	2978.1	2985.3	2966.6	2956.6	2992.4
87.5°	2701.6	2683.0	2663.0	2670.1	2675.8
90°	1949.6	1855.0	1697.5	1830.7	1908.0
92.5°	1613.0	1658.8	1597.2	1585.7	1644.5
95°	1456.8	1469.7	1505.5	1435.3	1428.2
97.5°	1368.0	1399.5	1389.5	1343.7	1342.2
100°	1223.3	1240.5	1231.9	1214.7	1216.2
102.5°	1094.4	1131.6	1091.5	1082.9	1095.8
105°	919.6	911.0	902.5	881.0	892.4
107.5°	638.9	647.5	628.9	624.6	643.2
110°	393.9	388.2	369.6	373.9	385.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	196.2	200.5	200.5	193.4	190.5
115°	88.8	87.4	87.4	83.1	85.9
117.5°	41.5	40.1	37.2	40.1	43.0
120°	32.9	34.4	31.5	32.9	35.8
122.5°	35.8	38.7	35.8	37.2	38.7
125°	40.1	41.5	40.1	40.1	41.5
127.5°	43.0	44.4	43.0	43.0	44.4
130°	45.8	47.3	45.8	47.3	47.3
132.5°	48.7	50.1	48.7	48.7	50.1
135°	51.6	53.0	51.6	51.6	53.0
137.5°	54.4	55.9	54.4	54.4	54.4
140°	57.3	57.3	55.9	57.3	55.9
142.5°	58.7	57.3	57.3	57.3	55.9
145°	57.3	55.9	57.3	55.9	55.9
147.5°	54.4	53.0	53.0	53.0	53.0
150°	48.7	48.7	47.3	48.7	48.7
152.5°	44.4	44.4	43.0	43.0	44.4
155°	40.1	41.5	40.1	40.1	40.1
157.5°	41.5	41.5	40.1	40.1	41.5
160°	41.5	41.5	40.1	40.1	41.5
162.5°	41.5	41.5	40.1	40.1	41.5
165°	43.0	41.5	41.5	41.5	41.5
167.5°	43.0	41.5	41.5	40.1	41.5
170°	43.0	43.0	41.5	40.1	41.5
172.5°	43.0	43.0	41.5	41.5	41.5
175°	41.5	41.5	41.5	41.5	43.0
177.5°	40.1	40.1	40.1	41.5	43.0
180°	41.5	41.5	41.5	41.5	41.5

(END OF REPORT)