

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: P381662

Luminaire Tested: **BMK-50-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: P381662  
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-50-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**

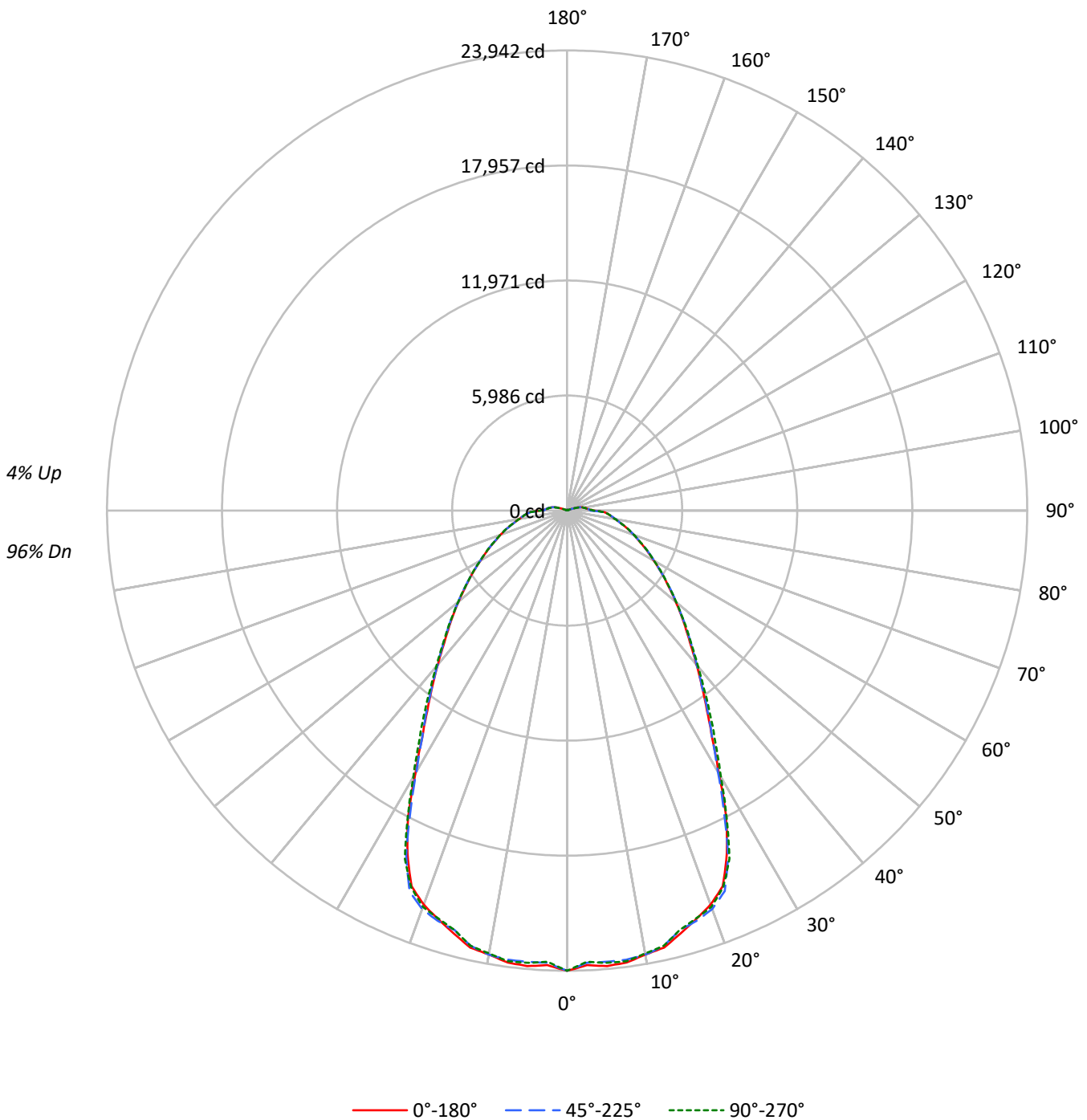
Lumens per Lamp: N/A  
Luminaire Lumens: 49991.5 lumens  
Efficiency: N/A  
Efficacy: 150.4 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 332.5  
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	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°	184660	184660	184660
5°	182255	180578	180981
10°	179882	179953	179439
15°	176255	174904	174825
20°	171593	173541	172599
25°	158504	159744	161067
30°	131473	130596	133297
35°	110099	110772	112799
40°	95893	96072	96970
45°	85245	85979	86079
50°	77452	77702	77875
55°	71329	71494	71507
60°	66553	66870	66698
65°	63653	63893	64178
70°	62576	62768	62926
75°	63094	62902	63349
80°	67359	67661	67113
85°	80311	80005	80697



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2252.1	4.5
10°-20°	6416.7	12.8
20°-30°	8923.7	17.9
30°-40°	8044.5	16.1
40°-50°	6818.1	13.6
50°-60°	5580.1	11.2
60°-70°	4386.4	8.8
70°-80°	3262.4	6.5
80°-90°	2272.0	4.5
90°-100°	1175.9	2.4
100°-110°	658.0	1.3
110°-120°	96.3	0.2
120°-130°	26.0	0.1
130°-140°	28.9	0.1
140°-150°	24.9	0.0
150°-160°	14.2	0.0
160°-170°	8.4	0.0
170°-180°	2.9	0.0
0°-30°	17592.5	35.2
0°-40°	25636.9	51.3
0°-60°	38035.1	76.1
0°-90°	47955.9	95.9
90°-120°	1930.2	3.9
90°-150°	2010.0	4.0
90°-180°	2036.0	4.1
0°-180°	49991.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	23942	23942	23942	23942	23942	
5°	23786	23576	23567	23689	23620	###
15°	22779	22649	22605	22767	22594	6423
25°	19662	19718	19816	20000	19980	8886
35°	12671	12654	12748	12786	12981	8000
45°	8748	8765	8824	8770	8834	6789
55°	6209	6179	6223	6223	6224	5577
65°	4381	4378	4397	4446	4417	4360
75°	3061	3071	3051	3072	3073	3258
85°	2146	2151	2138	2130	2156	1833
90°	1405	1337	1223	1319	1375	811
95°	1050	1059	1085	1034	1029	833
105°	663	656	650	635	643	662
115°	64	63	63	60	62	98
125°	29	30	29	29	30	25
135°	37	38	37	37	38	29
145°	41	40	41	40	40	25
155°	29	30	29	29	29	14
165°	31	30	30	30	30	9
175°	30	30	30	30	31	3
180°	30	30	30	30	30	



TEST NUMBER: P381662

CATALOG NUMBER: BMK-50-NCL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	23941.6	23941.6	23941.6	23941.6	23941.6
2.5°	23672.2	23556.6	23548.3	23582.4	23492.6
5°	23785.7	23576.2	23566.9	23688.7	23619.5
7.5°	23713.5	23539.0	23567.9	23709.3	23644.3
10°	23451.3	23380.0	23460.6	23580.3	23393.5
12.5°	23289.2	23190.1	23190.1	23207.7	23198.4
15°	22779.3	22649.2	22604.8	22766.9	22594.5
17.5°	22297.2	22183.7	22377.8	22329.2	22257.0
20°	21814.2	21879.2	22061.9	21962.8	21942.1
22.5°	21155.6	21179.3	21426.0	21430.2	21212.4
25°	19661.9	19717.7	19815.8	19999.5	19979.9
27.5°	17903.0	17687.3	17678.0	18086.8	17958.8
30°	15779.7	15720.9	15674.4	15981.0	15998.6
32.5°	14039.4	14101.3	14036.3	14203.5	14359.4
35°	12670.6	12654.1	12748.1	12786.3	12981.3
37.5°	11506.3	11491.8	11529.0	11645.6	11699.3
40°	10478.2	10478.2	10497.8	10614.4	10595.9
42.5°	9521.3	9612.1	9607.0	9640.0	9642.1
45°	8748.2	8764.7	8823.5	8769.8	8833.8
47.5°	8037.0	8009.1	8084.4	8022.5	8079.3
50°	7373.2	7324.7	7397.0	7329.9	7413.5
52.5°	6752.9	6700.2	6795.2	6727.1	6788.0
55°	6208.9	6178.9	6223.3	6223.3	6224.4
57.5°	5693.8	5687.6	5688.6	5729.9	5722.7
60°	5206.6	5231.4	5231.4	5260.3	5217.9
62.5°	4777.2	4786.5	4818.5	4835.0	4798.8
65°	4380.8	4377.7	4397.3	4445.8	4416.9
67.5°	4004.0	4016.4	4030.9	4081.4	4026.7
70°	3685.1	3682.0	3696.4	3729.5	3705.7
72.5°	3375.4	3369.2	3380.6	3397.1	3396.0
75°	3060.6	3070.9	3051.3	3071.9	3073.0
77.5°	2787.0	2785.0	2783.9	2773.6	2794.3
80°	2543.4	2541.4	2554.8	2527.9	2534.1
82.5°	2340.1	2337.0	2352.5	2316.3	2322.5
85°	2146.0	2151.2	2137.8	2130.5	2156.3
87.5°	1946.8	1933.4	1918.9	1924.1	1928.2
90°	1404.9	1336.7	1223.2	1319.2	1374.9
92.5°	1162.3	1195.3	1150.9	1142.7	1185.0
95°	1049.8	1059.1	1084.9	1034.3	1029.1
97.5°	985.8	1008.5	1001.3	968.2	967.2
100°	881.5	893.9	887.7	875.3	876.4
102.5°	788.6	815.5	786.6	780.4	789.7
105°	662.7	656.5	650.3	634.8	643.1
107.5°	460.4	466.6	453.1	450.1	463.5
110°	283.9	279.7	266.3	269.4	277.7



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CATALOG NUMBER: BMK-50-NCL-UNV-L850-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	141.4	144.5	144.5	139.4	137.3
115°	64.0	63.0	63.0	59.9	61.9
117.5°	29.9	28.9	26.8	28.9	31.0
120°	23.7	24.8	22.7	23.7	25.8
122.5°	25.8	27.9	25.8	26.8	27.9
125°	28.9	29.9	28.9	28.9	29.9
127.5°	31.0	32.0	31.0	31.0	32.0
130°	33.0	34.1	33.0	34.1	34.1
132.5°	35.1	36.1	35.1	35.1	36.1
135°	37.2	38.2	37.2	37.2	38.2
137.5°	39.2	40.3	39.2	39.2	39.2
140°	41.3	41.3	40.3	41.3	40.3
142.5°	42.3	41.3	41.3	41.3	40.3
145°	41.3	40.3	41.3	40.3	40.3
147.5°	39.2	38.2	38.2	38.2	38.2
150°	35.1	35.1	34.1	35.1	35.1
152.5°	32.0	32.0	31.0	31.0	32.0
155°	28.9	29.9	28.9	28.9	28.9
157.5°	29.9	29.9	28.9	28.9	29.9
160°	29.9	29.9	28.9	28.9	29.9
162.5°	29.9	29.9	28.9	28.9	29.9
165°	31.0	29.9	29.9	29.9	29.9
167.5°	31.0	29.9	29.9	28.9	29.9
170°	31.0	31.0	29.9	28.9	29.9
172.5°	31.0	31.0	29.9	29.9	29.9
175°	29.9	29.9	29.9	29.9	31.0
177.5°	28.9	28.9	28.9	29.9	31.0
180°	29.9	29.9	29.9	29.9	29.9

(END OF REPORT)