

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: P381684

Luminaire Tested: **BMK-60-NFL-UNV-L835-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: P381684  
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-60-NFL-UNV-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

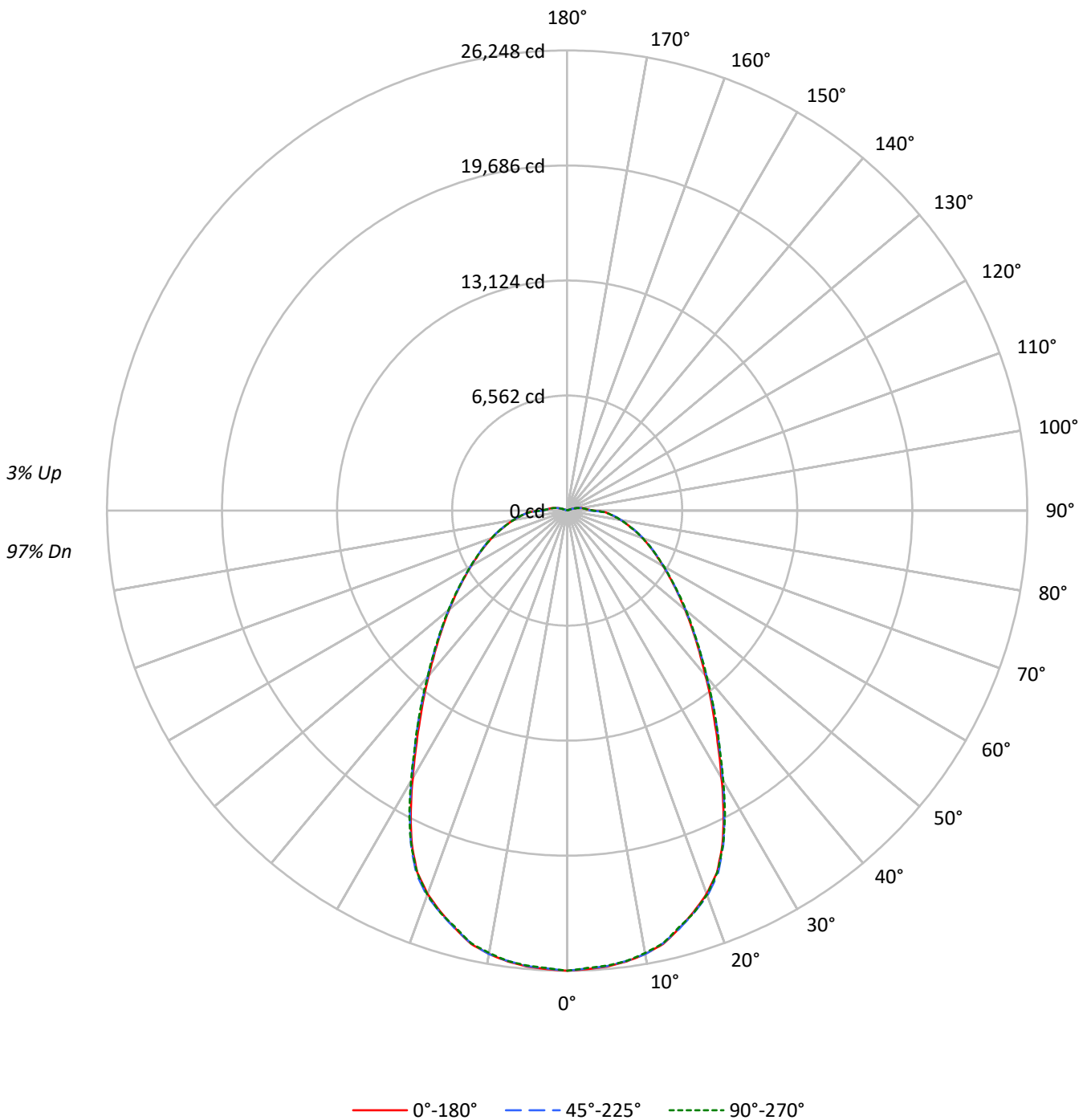
Lumens per Lamp: N/A  
Luminaire Lumens: 57069.8 lumens  
Efficiency: N/A  
Efficacy: 140.7 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 405.7  
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	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°	202452	202452	202452
5°	200090	199807	199615
10°	196949	197041	196518
15°	190936	191083	190446
20°	183024	183879	183381
25°	169036	169864	169662
30°	146723	147768	148255
35°	127231	128808	128890
40°	112261	113190	113386
45°	100817	101527	101678
50°	92085	92549	92875
55°	85423	85794	85958
60°	80682	81124	81368
65°	78333	78836	78541
70°	77814	78200	77735
75°	78120	78932	78194
80°	82206	82935	82047
85°	92923	93503	92474



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2476.2	4.3
10°-20°	6943.8	12.2
20°-30°	9563.1	16.8
30°-40°	9273.9	16.3
40°-50°	8070.5	14.1
50°-60°	6713.6	11.8
60°-70°	5388.7	9.4
70°-80°	4045.0	7.1
80°-90°	2641.4	4.6
90°-100°	1193.2	2.1
100°-110°	566.2	1.0
110°-120°	90.8	0.2
120°-130°	25.3	0.0
130°-140°	28.0	0.0
140°-150°	24.4	0.0
150°-160°	14.2	0.0
160°-170°	8.6	0.0
170°-180°	2.9	0.0
0°-30°	18983.1	33.3
0°-40°	28257.0	49.5
0°-60°	43041.0	75.4
0°-90°	55116.1	96.6
90°-120°	1850.3	3.2
90°-150°	1928.0	3.4
90°-180°	1954.0	3.4
0°-180°	57069.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	26248	26248	26248	26248	26248	
5°	26113	26028	26076	26119	26051	###
15°	24677	24594	24696	24714	24613	6942
25°	20968	20967	21071	21106	21046	9532
35°	14642	14690	14824	14824	14833	9207
45°	10346	10389	10419	10435	10435	8024
55°	7436	7450	7468	7486	7482	6685
65°	5391	5407	5426	5428	5405	5360
75°	3790	3811	3829	3812	3793	4034
85°	2483	2504	2498	2466	2471	2154
90°	1516	1467	1345	1443	1475	879
95°	1084	1088	1084	1062	1069	834
105°	543	540	536	529	528	574
115°	64	63	63	61	60	93
125°	28	29	28	29	30	25
135°	36	37	36	37	37	28
145°	41	39	39	39	39	25
155°	29	30	29	29	29	14
165°	31	31	30	30	30	9
175°	30	31	30	31	31	3
180°	31	31	31	31	31	



TEST NUMBER: P381684

CATALOG NUMBER: BMK-60-NFL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	26248.4	26248.4	26248.4	26248.4	26248.4
2.5°	26182.7	26112.2	26138.5	26183.9	26115.8
5°	26113.4	26027.5	26076.4	26119.4	26051.3
7.5°	25942.7	25854.3	25915.2	25984.5	25915.2
10°	25676.3	25596.3	25688.3	25696.6	25620.2
12.5°	25318.0	25229.7	25279.8	25310.9	25282.2
15°	24676.7	24594.3	24695.8	24713.7	24613.4
17.5°	23999.5	23970.9	24046.1	24089.1	24050.9
20°	23267.4	23287.7	23376.1	23385.7	23312.8
22.5°	22333.5	22316.8	22444.5	22429.0	22363.3
25°	20968.4	20967.2	21071.1	21105.7	21046.0
27.5°	19315.5	19276.1	19425.3	19425.3	19498.2
30°	17610.0	17586.1	17735.4	17745.0	17793.9
32.5°	16040.7	16081.3	16195.9	16221.0	16217.4
35°	14642.2	14689.9	14823.7	14823.7	14833.2
37.5°	13419.2	13456.2	13536.2	13578.0	13560.1
40°	12266.7	12315.7	12368.2	12416.0	12389.7
42.5°	11249.1	11279.0	11359.0	11391.3	11357.8
45°	10346.2	10389.2	10419.1	10434.6	10434.6
47.5°	9522.2	9529.3	9581.9	9583.1	9599.8
50°	8766.2	8747.1	8810.4	8792.5	8841.4
52.5°	8073.5	8077.1	8103.3	8114.1	8147.5
55°	7435.7	7450.1	7468.0	7485.9	7482.3
57.5°	6849.3	6872.0	6897.1	6910.2	6889.9
60°	6311.9	6353.7	6346.5	6377.6	6365.6
62.5°	5830.6	5870.0	5873.6	5889.1	5872.4
65°	5391.1	5406.6	5425.7	5428.1	5405.4
67.5°	4975.5	4989.8	5017.3	5011.3	4981.4
70°	4582.5	4588.5	4605.2	4607.6	4577.8
72.5°	4192.0	4195.6	4207.5	4205.1	4184.8
75°	3789.5	3811.0	3828.9	3812.2	3793.1
77.5°	3451.5	3453.9	3467.1	3442.0	3445.6
80°	3104.0	3118.3	3131.5	3093.2	3098.0
82.5°	2793.5	2809.0	2817.4	2770.8	2776.8
85°	2483.0	2504.5	2498.5	2466.2	2471.0
87.5°	2170.0	2146.2	2129.4	2116.3	2122.3
90°	1515.6	1466.6	1344.8	1442.7	1475.0
92.5°	1215.8	1233.7	1217.0	1197.9	1215.8
95°	1084.4	1088.0	1084.4	1061.7	1068.9
97.5°	956.6	966.2	956.6	933.9	942.3
100°	821.7	824.1	818.1	803.8	809.7
102.5°	686.7	689.1	680.8	671.2	673.6
105°	543.4	539.8	536.2	529.1	527.9
107.5°	391.7	391.7	385.8	378.6	383.4
110°	256.8	253.2	240.1	242.4	244.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	136.2	137.3	139.7	132.6	127.8
115°	64.5	63.3	63.3	60.9	59.7
117.5°	28.7	28.7	26.3	27.5	28.7
120°	22.7	23.9	22.7	22.7	25.1
122.5°	25.1	26.3	25.1	26.3	27.5
125°	27.5	28.7	27.5	28.7	29.9
127.5°	29.9	31.1	29.9	31.1	31.1
130°	32.2	33.4	32.2	32.2	33.4
132.5°	33.4	34.6	34.6	34.6	34.6
135°	35.8	37.0	35.8	37.0	37.0
137.5°	38.2	38.2	38.2	38.2	38.2
140°	39.4	39.4	39.4	39.4	39.4
142.5°	40.6	40.6	40.6	40.6	39.4
145°	40.6	39.4	39.4	39.4	39.4
147.5°	38.2	38.2	38.2	38.2	37.0
150°	34.6	34.6	34.6	34.6	34.6
152.5°	31.1	32.2	31.1	31.1	31.1
155°	28.7	29.9	28.7	28.7	28.7
157.5°	29.9	29.9	28.7	28.7	29.9
160°	29.9	29.9	29.9	29.9	29.9
162.5°	31.1	31.1	29.9	29.9	29.9
165°	31.1	31.1	29.9	29.9	29.9
167.5°	31.1	31.1	29.9	29.9	29.9
170°	31.1	31.1	29.9	29.9	29.9
172.5°	31.1	31.1	31.1	31.1	31.1
175°	29.9	31.1	29.9	31.1	31.1
177.5°	29.9	29.9	29.9	31.1	32.2
180°	31.1	31.1	31.1	31.1	31.1

(END OF REPORT)