

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: P295029

Luminaire Tested: **24CZ2-40HE-HRP-UNV-L940-CD1-U**

Issue Date: 12/2/2019

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: P295029  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40HE-HRP-UNV-L940-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (168) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2673.9 lumens  
Efficiency: N/A  
Efficacy: 87.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

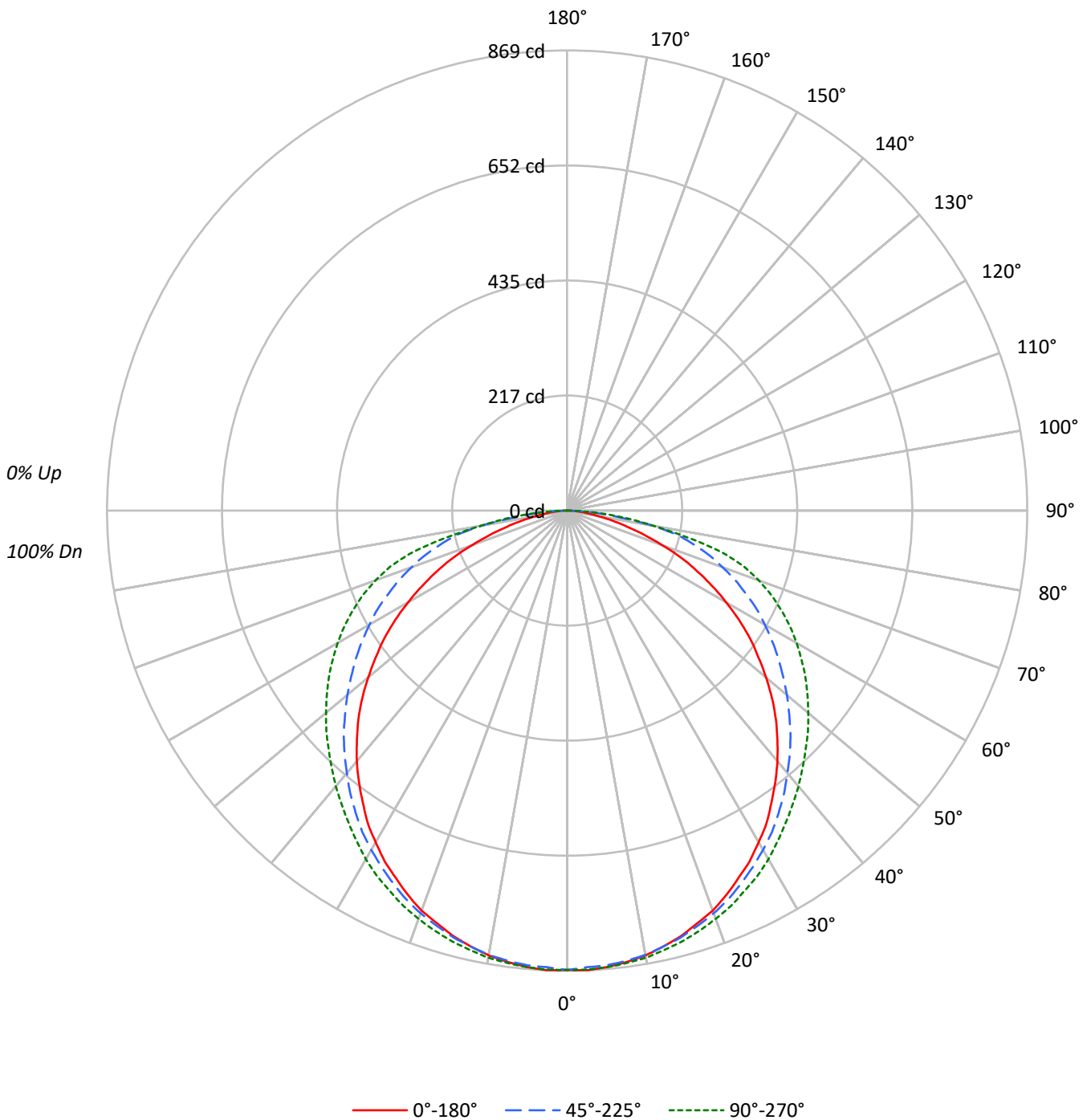
Input Watts (W): 30.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1167	1167	1167
5°	1169	1164	1169
10°	1165	1164	1172
15°	1159	1162	1173
20°	1151	1159	1175
25°	1137	1153	1177
30°	1123	1150	1181
35°	1105	1144	1182
40°	1085	1136	1193
45°	1061	1135	1212
50°	1026	1134	1244
55°	990	1142	1289
60°	934	1160	1347
65°	862	1187	1422
70°	753	1229	1515
75°	611	1292	1565
80°	451	1266	1266
85°	346	932	1054



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.2	3.1
10°-20°	236.0	8.8
20°-30°	359.3	13.4
30°-40°	436.2	16.3
40°-50°	460.9	17.2
50°-60°	434.9	16.3
60°-70°	361.6	13.5
70°-80°	237.9	8.9
80°-90°	64.9	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	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°	677.5	25.3
0°-40°	1113.7	41.7
0°-60°	2009.5	75.2
0°-90°	2673.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2673.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	868	868	868	868	868	
5°	865	865	862	865	865	82
15°	832	833	834	842	842	235
25°	766	770	777	790	792	353
35°	673	681	696	714	720	421
45°	558	569	597	626	637	429
55°	422	440	487	533	550	376
65°	271	302	373	428	447	268
75°	118	171	248	294	301	127
85°	22	49	60	67	68	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	867.5	867.5	867.5	867.5	867.5
2.5°	868.7	867.5	863.1	867.5	867.5
5°	865.3	865.3	861.9	865.3	865.3
7.5°	859.7	859.7	857.5	861.9	861.9
10°	853.0	853.0	851.9	857.5	857.5
12.5°	842.9	844.0	842.9	849.6	849.6
15°	831.7	832.8	834.0	841.8	841.8
17.5°	817.2	819.4	821.6	830.6	831.7
20°	803.7	804.9	809.3	819.4	820.5
22.5°	785.8	789.2	794.8	804.9	808.2
25°	765.7	770.1	776.9	790.3	792.5
27.5°	746.6	750.0	759.0	773.5	778.0
30°	723.1	728.7	739.9	754.5	760.1
32.5°	700.7	706.3	719.8	735.4	739.9
35°	672.8	680.6	696.3	714.2	719.8
37.5°	645.9	653.7	672.8	692.9	699.6
40°	617.9	626.9	647.0	670.5	679.5
42.5°	587.7	600.0	622.4	648.1	658.2
45°	557.5	568.7	596.6	625.7	636.9
47.5°	525.0	538.4	568.7	603.4	616.8
50°	490.3	507.1	541.8	579.9	594.4
52.5°	455.6	474.6	513.8	556.3	572.0
55°	422.0	439.9	486.9	532.8	549.6
57.5°	385.1	407.5	459.0	508.2	525.0
60°	347.0	371.6	431.0	482.5	500.4
62.5°	309.0	336.9	404.1	455.6	474.6
65°	270.9	302.2	372.8	427.6	446.6
67.5°	234.0	268.7	343.7	398.5	417.5
70°	191.4	235.1	312.3	366.0	385.1
72.5°	152.2	202.6	282.1	332.5	349.3
75°	117.5	171.3	248.5	294.4	301.1
77.5°	86.2	139.9	213.8	229.5	230.6
80°	58.2	111.9	163.4	161.2	163.4
82.5°	38.1	84.0	103.0	115.3	116.4
85°	22.4	49.3	60.4	67.2	68.3
87.5°	11.2	16.8	21.3	22.4	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)