

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: P295020

Luminaire Tested: **24CZ2-35HE-HRP-UNV-L935-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: P295020  
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: 24CZ2-35HE-HRP-UNV-L935-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (168) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2353.2 lumens  
Efficiency: N/A  
Efficacy: 87.5 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

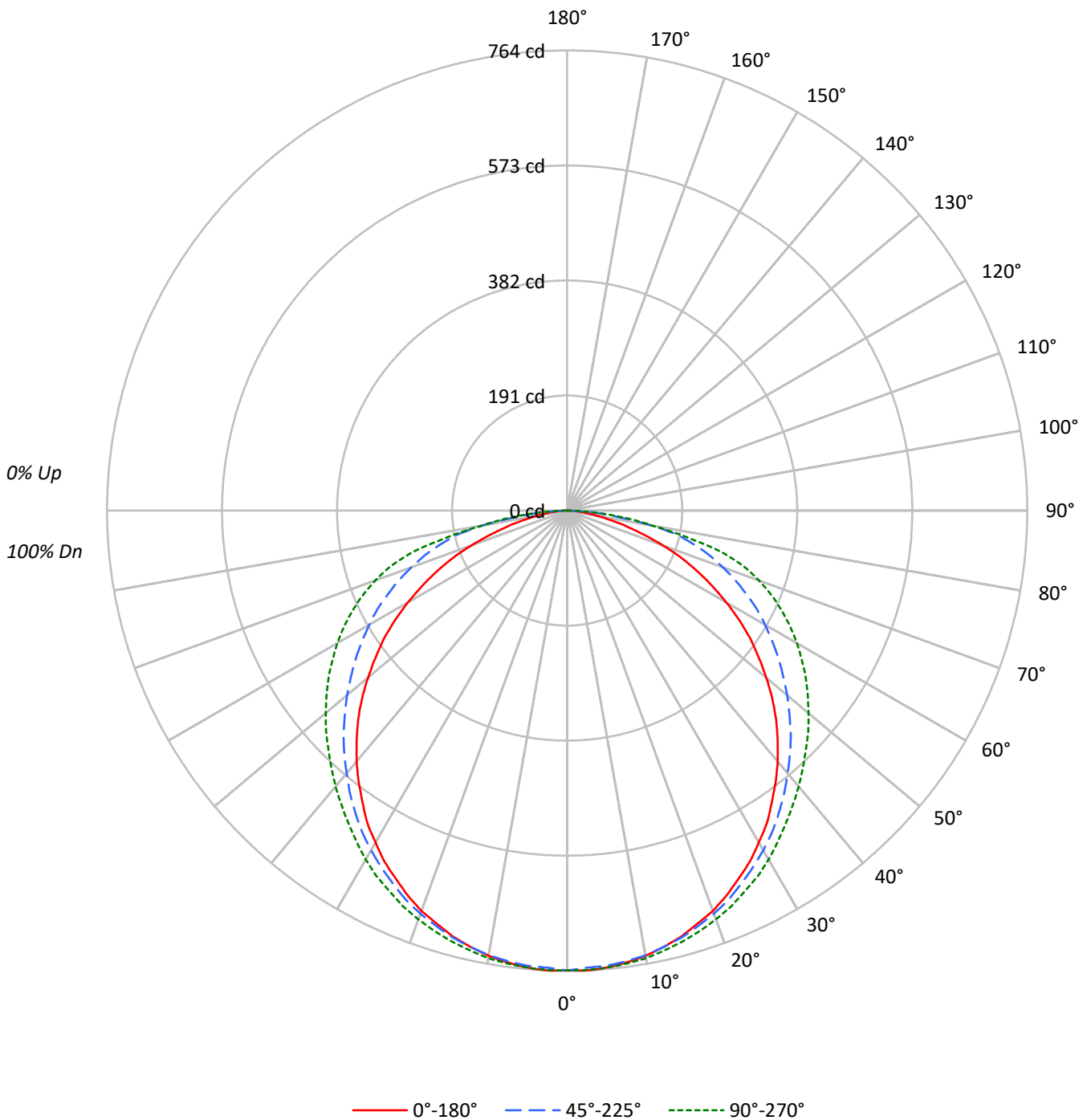
Input Watts (W): 26.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295020

CATALOG NUMBER: 24CZ2-35HE-HRP-UNV-L935-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295020

CATALOG NUMBER: 24CZ2-35HE-HRP-UNV-L935-CD1-U

**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°	1027	1027	1027
5°	1029	1025	1029
10°	1026	1024	1031
15°	1020	1022	1032
20°	1013	1020	1034
25°	1000	1015	1035
30°	989	1012	1039
35°	973	1007	1040
40°	955	1000	1050
45°	934	999	1067
50°	903	998	1095
55°	871	1005	1135
60°	822	1021	1185
65°	759	1045	1252
70°	663	1081	1333
75°	538	1137	1378
80°	397	1114	1114
85°	304	821	928



TEST NUMBER: P295020

CATALOG NUMBER: 24CZ2-35HE-HRP-UNV-L935-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	3.1
10°-20°	207.7	8.8
20°-30°	316.2	13.4
30°-40°	383.9	16.3
40°-50°	405.6	17.2
50°-60°	382.7	16.3
60°-70°	318.2	13.5
70°-80°	209.4	8.9
80°-90°	57.1	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°	596.2	25.3
0°-40°	980.1	41.7
0°-60°	1768.5	75.2
0°-90°	2353.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2353.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	764	764	764	764	764	
5°	762	762	759	762	762	72
15°	732	733	734	741	741	206
25°	674	678	684	696	698	311
35°	592	599	613	628	633	371
45°	491	500	525	551	560	378
55°	371	387	428	469	484	331
65°	238	266	328	376	393	236
75°	103	151	219	259	265	111
85°	20	43	53	59	60	24
90°	0	0	0	0	0	



TEST NUMBER: P295020

CATALOG NUMBER: 24CZ2-35HE-HRP-UNV-L935-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	763.5	763.5	763.5	763.5	763.5
2.5°	764.5	763.5	759.5	763.5	763.5
5°	761.5	761.5	758.6	761.5	761.5
7.5°	756.6	756.6	754.6	758.6	758.6
10°	750.7	750.7	749.7	754.6	754.6
12.5°	741.8	742.8	741.8	747.7	747.7
15°	732.0	732.9	733.9	740.8	740.8
17.5°	719.2	721.1	723.1	731.0	732.0
20°	707.3	708.3	712.3	721.1	722.1
22.5°	691.6	694.5	699.5	708.3	711.3
25°	673.8	677.8	683.7	695.5	697.5
27.5°	657.1	660.0	667.9	680.7	684.7
30°	636.4	641.3	651.2	664.0	668.9
32.5°	616.7	621.6	633.4	647.2	651.2
35°	592.1	599.0	612.8	628.5	633.4
37.5°	568.4	575.3	592.1	609.8	615.7
40°	543.8	551.7	569.4	590.1	598.0
42.5°	517.2	528.0	547.7	570.4	579.3
45°	490.6	500.5	525.1	550.7	560.5
47.5°	462.0	473.9	500.5	531.0	542.8
50°	431.5	446.3	476.8	510.3	523.1
52.5°	401.0	417.7	452.2	489.6	503.4
55°	371.4	387.2	428.5	468.9	483.7
57.5°	338.9	358.6	403.9	447.3	462.0
60°	305.4	327.1	379.3	424.6	440.4
62.5°	271.9	296.5	355.6	401.0	417.7
65°	238.4	266.0	328.1	376.3	393.1
67.5°	205.9	236.4	302.4	350.7	367.5
70°	168.5	206.9	274.9	322.1	338.9
72.5°	134.0	178.3	248.3	292.6	307.4
75°	103.4	150.7	218.7	259.1	265.0
77.5°	75.9	123.1	188.2	202.0	202.9
80°	51.2	98.5	143.8	141.9	143.8
82.5°	33.5	73.9	90.6	101.5	102.5
85°	19.7	43.3	53.2	59.1	60.1
87.5°	9.9	14.8	18.7	19.7	21.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)