

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: P295039

Luminaire Tested: **24CZ2-45-HRP-UNV-L930-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: P295039  
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: 24CZ2-45-HRP-UNV-L930-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (84) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

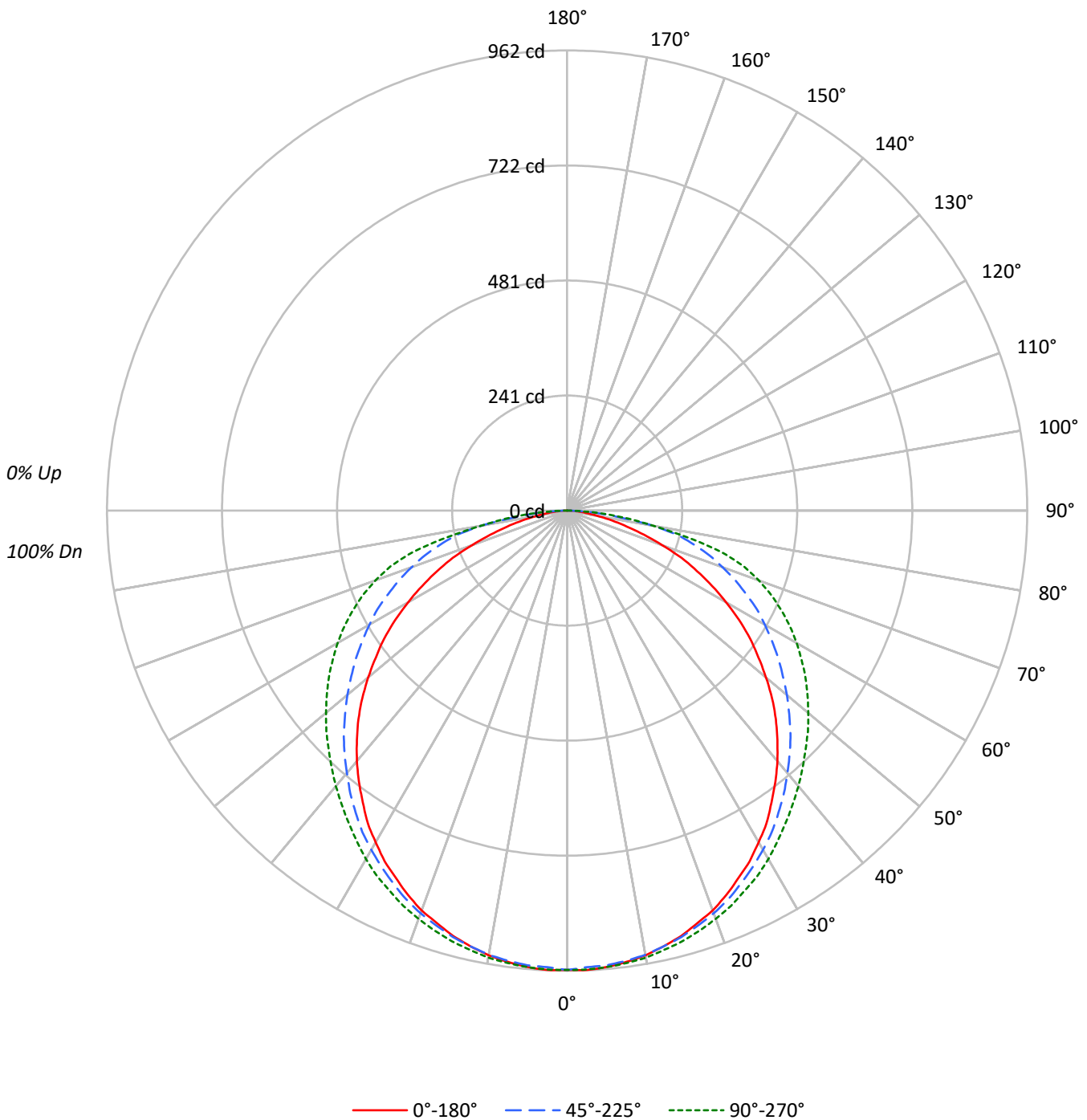
Lumens per Lamp: N/A  
Luminaire Lumens: 2959.7 lumens  
Efficiency: N/A  
Efficacy: 69.0 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 42.9  
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: P295039  
CATALOG NUMBER: 24CZ2-45-HRP-UNV-L930-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295039

CATALOG NUMBER: 24CZ2-45-HRP-UNV-L930-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°	1292	1292	1292
5°	1294	1289	1294
10°	1290	1288	1297
15°	1282	1286	1298
20°	1274	1283	1301
25°	1258	1277	1302
30°	1244	1272	1307
35°	1223	1266	1309
40°	1201	1258	1321
45°	1174	1257	1341
50°	1136	1255	1377
55°	1096	1264	1427
60°	1034	1284	1491
65°	955	1314	1574
70°	834	1360	1677
75°	676	1430	1733
80°	499	1402	1402
85°	383	1033	1167



TEST NUMBER: P295039

CATALOG NUMBER: 24CZ2-45-HRP-UNV-L930-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.0	3.1
10°-20°	261.2	8.8
20°-30°	397.7	13.4
30°-40°	482.9	16.3
40°-50°	510.2	17.2
50°-60°	481.4	16.3
60°-70°	400.3	13.5
70°-80°	263.3	8.9
80°-90°	71.8	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°	749.9	25.3
0°-40°	1232.8	41.7
0°-60°	2224.3	75.2
0°-90°	2959.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2959.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	960	960	960	960	960	
5°	958	958	954	958	958	91
15°	921	922	923	932	932	260
25°	848	852	860	875	877	391
35°	745	753	771	790	797	466
45°	617	630	660	693	705	475
55°	467	487	539	590	608	416
65°	300	335	413	473	494	296
75°	130	190	275	326	333	140
85°	25	54	67	74	76	30
90°	0	0	0	0	0	



TEST NUMBER: P295039

CATALOG NUMBER: 24CZ2-45-HRP-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	960.3	960.3	960.3	960.3	960.3
2.5°	961.5	960.3	955.3	960.3	960.3
5°	957.8	957.8	954.1	957.8	957.8
7.5°	951.6	951.6	949.1	954.1	954.1
10°	944.2	944.2	942.9	949.1	949.1
12.5°	933.0	934.3	933.0	940.5	940.5
15°	920.6	921.9	923.1	931.8	931.8
17.5°	904.5	907.0	909.5	919.4	920.6
20°	889.7	890.9	895.9	907.0	908.3
22.5°	869.8	873.6	879.8	890.9	894.6
25°	847.5	852.5	859.9	874.8	877.3
27.5°	826.5	830.2	840.1	856.2	861.2
30°	800.5	806.6	819.0	835.1	841.3
32.5°	775.7	781.9	796.7	814.1	819.0
35°	744.7	753.4	770.7	790.5	796.7
37.5°	715.0	723.6	744.7	767.0	774.4
40°	684.0	693.9	716.2	742.2	752.1
42.5°	650.5	664.2	688.9	717.4	728.6
45°	617.1	629.5	660.4	692.6	705.0
47.5°	581.1	596.0	629.5	667.9	682.7
50°	542.7	561.3	599.7	641.8	658.0
52.5°	504.3	525.4	568.7	615.8	633.2
55°	467.1	487.0	539.0	589.8	608.4
57.5°	426.2	451.0	508.0	562.5	581.1
60°	384.1	411.4	477.0	534.0	553.9
62.5°	342.0	373.0	447.3	504.3	525.4
65°	299.9	334.6	412.6	473.3	494.4
67.5°	259.0	297.4	380.4	441.1	462.2
70°	211.9	260.2	345.7	405.2	426.2
72.5°	168.5	224.3	312.2	368.0	386.6
75°	130.1	189.6	275.1	325.9	333.3
77.5°	95.4	154.9	236.7	254.0	255.3
80°	64.4	123.9	180.9	178.4	180.9
82.5°	42.1	92.9	114.0	127.6	128.9
85°	24.8	54.5	66.9	74.3	75.6
87.5°	12.4	18.6	23.5	24.8	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)