

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: P295075

Luminaire Tested: **24CZ2-70HE-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: P295075  
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: 24CZ2-70HE-HRP-UNV-L930-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (392) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4498.0 lumens  
Efficiency: N/A  
Efficacy: 88.2 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

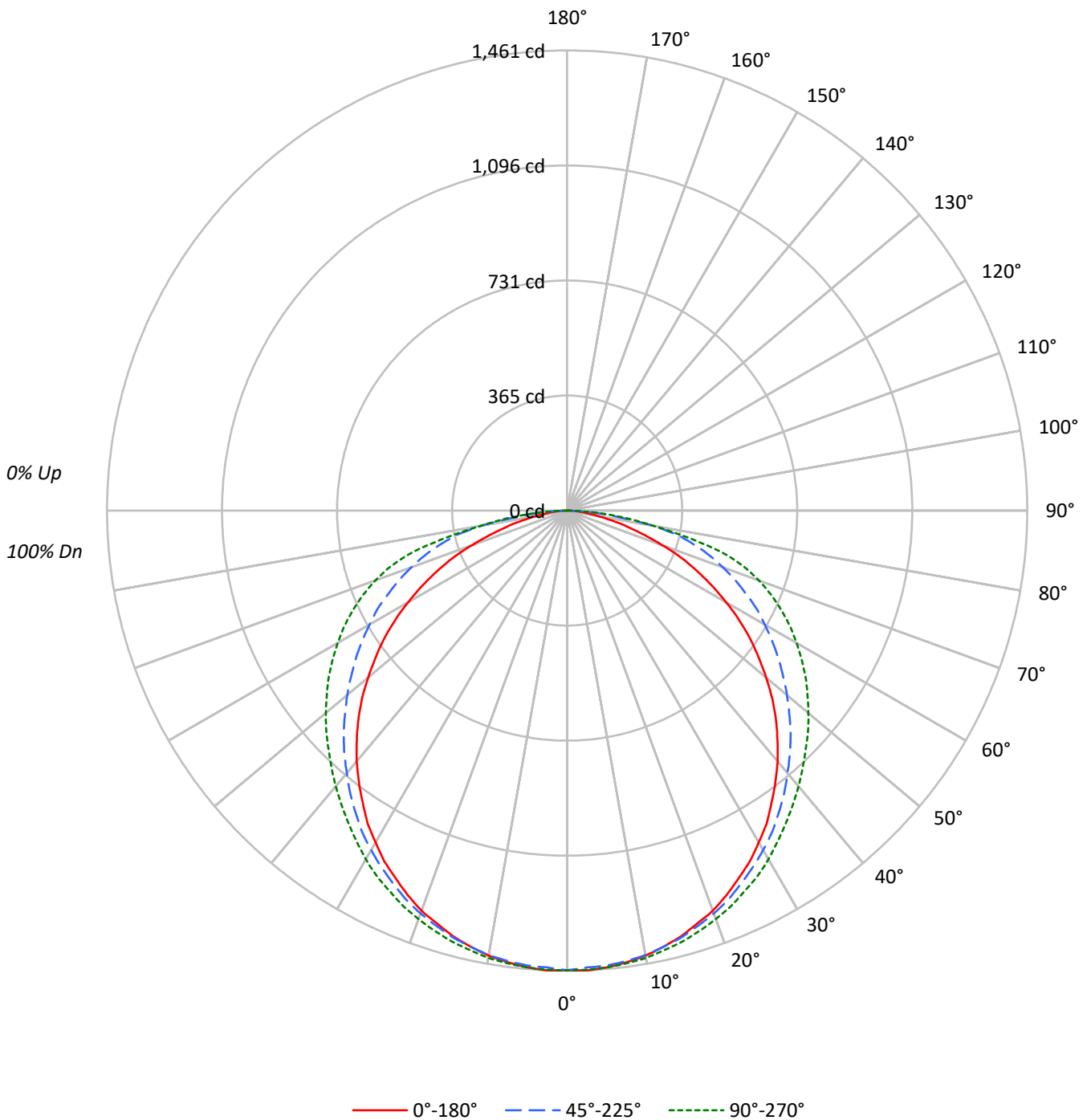
Input Watts (W): 51  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295075

CATALOG NUMBER: 24CZ2-70HE-HRP-UNV-L930-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295075

CATALOG NUMBER: 24CZ2-70HE-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°	1964	1964	1964
5°	1966	1958	1966
10°	1960	1958	1971
15°	1949	1954	1973
20°	1936	1949	1976
25°	1912	1940	1979
30°	1890	1934	1986
35°	1859	1924	1989
40°	1826	1912	2008
45°	1784	1910	2039
50°	1726	1908	2093
55°	1665	1921	2169
60°	1571	1951	2265
65°	1451	1996	2392
70°	1267	2067	2548
75°	1028	2173	2633
80°	759	2130	2130
85°	582	1570	1774



TEST NUMBER: P295075

CATALOG NUMBER: 24CZ2-70HE-HRP-UNV-L930-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.2	3.1
10°-20°	397.0	8.8
20°-30°	604.4	13.4
30°-40°	733.9	16.3
40°-50°	775.3	17.2
50°-60°	731.6	16.3
60°-70°	608.3	13.5
70°-80°	400.2	8.9
80°-90°	109.1	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°	1139.6	25.3
0°-40°	1873.5	41.7
0°-60°	3380.4	75.2
0°-90°	4498.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4498.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1459	1459	1459	1459	1459	
5°	1456	1456	1450	1456	1456	138
15°	1399	1401	1403	1416	1416	395
25°	1288	1296	1307	1329	1333	594
35°	1132	1145	1171	1201	1211	708
45°	938	957	1004	1053	1072	722
55°	710	740	819	896	925	632
65°	456	508	627	719	751	450
75°	198	288	418	495	506	213
85°	38	83	102	113	115	46
90°	0	0	0	0	0	



TEST NUMBER: P295075

CATALOG NUMBER: 24CZ2-70HE-HRP-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1459.4	1459.4	1459.4	1459.4	1459.4
2.5°	1461.3	1459.4	1451.8	1459.4	1459.4
5°	1455.6	1455.6	1450.0	1455.6	1455.6
7.5°	1446.2	1446.2	1442.4	1450.0	1450.0
10°	1434.9	1434.9	1433.0	1442.4	1442.4
12.5°	1417.9	1419.8	1417.9	1429.2	1429.2
15°	1399.1	1401.0	1402.9	1416.1	1416.1
17.5°	1374.6	1378.4	1382.2	1397.2	1399.1
20°	1352.0	1353.9	1361.4	1378.4	1380.3
22.5°	1321.9	1327.6	1337.0	1353.9	1359.6
25°	1288.0	1295.5	1306.8	1329.4	1333.2
27.5°	1256.0	1261.6	1276.7	1301.2	1308.7
30°	1216.5	1225.9	1244.7	1269.2	1278.6
32.5°	1178.8	1188.2	1210.8	1237.2	1244.7
35°	1131.7	1144.9	1171.3	1201.4	1210.8
37.5°	1086.5	1099.7	1131.7	1165.6	1176.9
40°	1039.4	1054.5	1088.4	1128.0	1143.0
42.5°	988.6	1009.3	1047.0	1090.3	1107.2
45°	937.8	956.6	1003.7	1052.6	1071.5
47.5°	883.2	905.7	956.6	1015.0	1037.6
50°	824.8	853.0	911.4	975.4	999.9
52.5°	766.4	798.4	864.3	935.9	962.2
55°	709.9	740.0	819.1	896.3	924.6
57.5°	647.8	685.4	772.1	854.9	883.2
60°	583.7	625.2	725.0	811.6	841.7
62.5°	519.7	566.8	679.8	766.4	798.4
65°	455.7	508.4	627.1	719.3	751.3
67.5°	393.6	451.9	578.1	670.4	702.4
70°	322.0	395.4	525.4	615.8	647.8
72.5°	256.1	340.8	474.5	559.3	587.5
75°	197.7	288.1	418.0	495.2	506.5
77.5°	145.0	235.4	359.7	386.0	387.9
80°	97.9	188.3	274.9	271.2	274.9
82.5°	64.0	141.2	173.2	194.0	195.8
85°	37.7	82.9	101.7	113.0	114.9
87.5°	18.8	28.2	35.8	37.7	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)