

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: P272151

Luminaire Tested: **24CZ2-45HE-S-UNV-L940-CD1-U**

Issue Date: 3/3/2020

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: P272151  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45HE-S-UNV-L940-CD1-U  
Description: 2'x4' TROFFER LED MODULE,SMOOTH LENS, 90CRI  
Light Source: (168) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

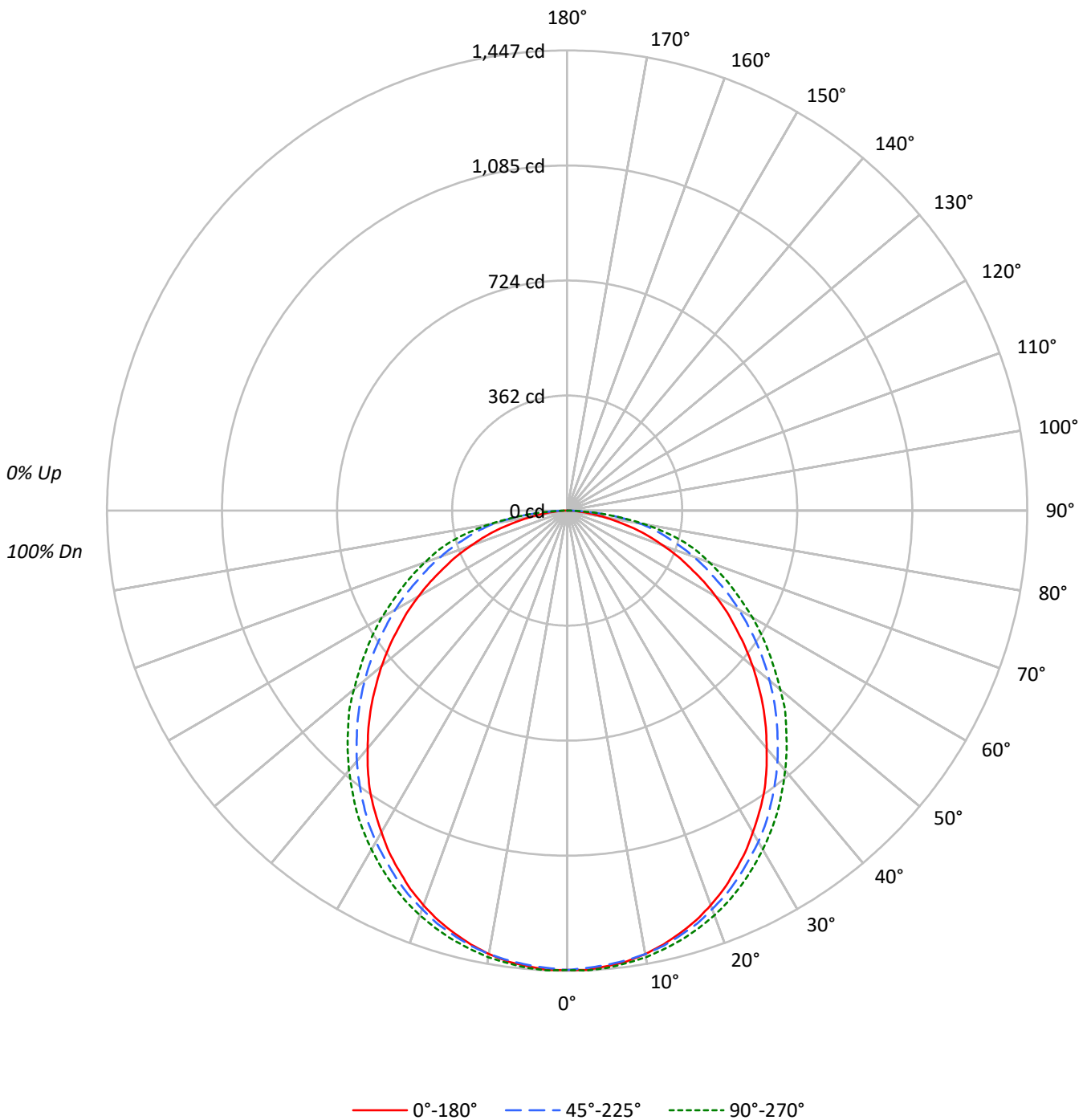
Lumens per Lamp: N/A  
Luminaire Lumens: 4112.0 lumens  
Efficiency: N/A  
Efficacy: 116.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 35.3  
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: P272151  
CATALOG NUMBER: 24CZ2-45HE-S-UNV-L940-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P272151

CATALOG NUMBER: 24CZ2-45HE-S-UNV-L940-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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1944	1944	1944
5°	1942	1937	1949
10°	1934	1934	1949
15°	1916	1925	1945
20°	1891	1910	1939
25°	1856	1891	1927
30°	1814	1869	1912
35°	1774	1838	1896
40°	1714	1808	1874
45°	1658	1772	1854
50°	1594	1739	1832
55°	1523	1707	1814
60°	1452	1680	1810
65°	1360	1651	1821
70°	1259	1660	1870
75°	1127	1691	1976
80°	911	1791	1933
85°	685	1573	1533



TEST NUMBER: P272151

CATALOG NUMBER: 24CZ2-45HE-S-UNV-L940-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.8	3.3
10°-20°	390.8	9.5
20°-30°	587.4	14.3
30°-40°	699.7	17.0
40°-50°	716.1	17.4
50°-60°	644.7	15.7
60°-70°	506.3	12.3
70°-80°	328.6	8.0
80°-90°	101.6	2.5
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°	1114.9	27.1
0°-40°	1814.6	44.1
0°-60°	3175.5	77.2
0°-90°	4112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4112.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1438	1441	1434	1442	1443	137
15°	1375	1379	1382	1394	1396	388
25°	1250	1260	1274	1294	1298	576
35°	1080	1093	1119	1147	1155	674
45°	871	892	931	966	974	672
55°	649	678	728	765	773	582
65°	427	460	518	562	572	425
75°	217	259	325	370	380	229
85°	44	82	102	99	99	54
90°	0	0	0	0	0	



TEST NUMBER: P272151

CATALOG NUMBER: 24CZ2-45HE-S-UNV-L940-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1444.6	1444.6	1444.6	1444.6	1444.6
2.5°	1445.9	1445.9	1439.3	1445.9	1447.2
5°	1438.0	1440.7	1434.1	1442.0	1443.3
7.5°	1430.2	1430.2	1426.3	1434.1	1435.4
10°	1415.8	1417.1	1415.8	1425.0	1426.3
12.5°	1397.6	1400.2	1401.5	1410.6	1411.9
15°	1375.3	1379.3	1381.9	1393.6	1396.2
17.5°	1350.5	1354.4	1361.0	1374.0	1376.7
20°	1320.5	1325.7	1333.6	1350.5	1354.4
22.5°	1287.8	1293.1	1306.1	1321.8	1328.3
25°	1250.0	1260.4	1273.5	1294.4	1298.3
27.5°	1212.1	1221.2	1238.2	1260.4	1265.6
30°	1167.7	1182.0	1202.9	1225.1	1230.4
32.5°	1124.6	1138.9	1163.8	1187.3	1193.8
35°	1080.2	1093.2	1119.3	1146.8	1154.6
37.5°	1029.2	1046.2	1074.9	1102.4	1110.2
40°	975.7	996.6	1029.2	1058.0	1067.1
42.5°	924.7	946.9	979.6	1010.9	1021.4
45°	871.2	892.1	931.3	966.5	974.4
47.5°	816.3	839.8	881.6	916.9	930.0
50°	761.5	786.3	830.7	867.3	875.1
52.5°	706.6	732.7	779.8	818.9	822.9
55°	649.1	677.9	727.5	765.4	773.2
57.5°	596.9	621.7	675.3	714.4	723.6
60°	539.4	566.9	624.3	660.9	672.7
62.5°	484.6	513.3	573.4	610.0	620.4
65°	427.1	459.8	518.5	561.6	572.1
67.5°	377.5	408.8	471.5	513.3	523.8
70°	320.0	355.3	421.9	465.0	475.4
72.5°	270.4	306.9	373.6	415.3	431.0
75°	216.8	258.6	325.2	369.6	380.1
77.5°	164.6	212.9	280.8	314.8	314.8
80°	117.6	168.5	231.2	246.9	249.5
82.5°	77.1	126.7	171.1	169.8	169.8
85°	44.4	82.3	101.9	99.3	99.3
87.5°	17.0	34.0	36.6	36.6	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)