

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: FAIL-SAFE

Report Number: P311353

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-6500K**

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: P311353  
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: FAIL-SAFE  
Catalog Number: 24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 6500K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: 

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

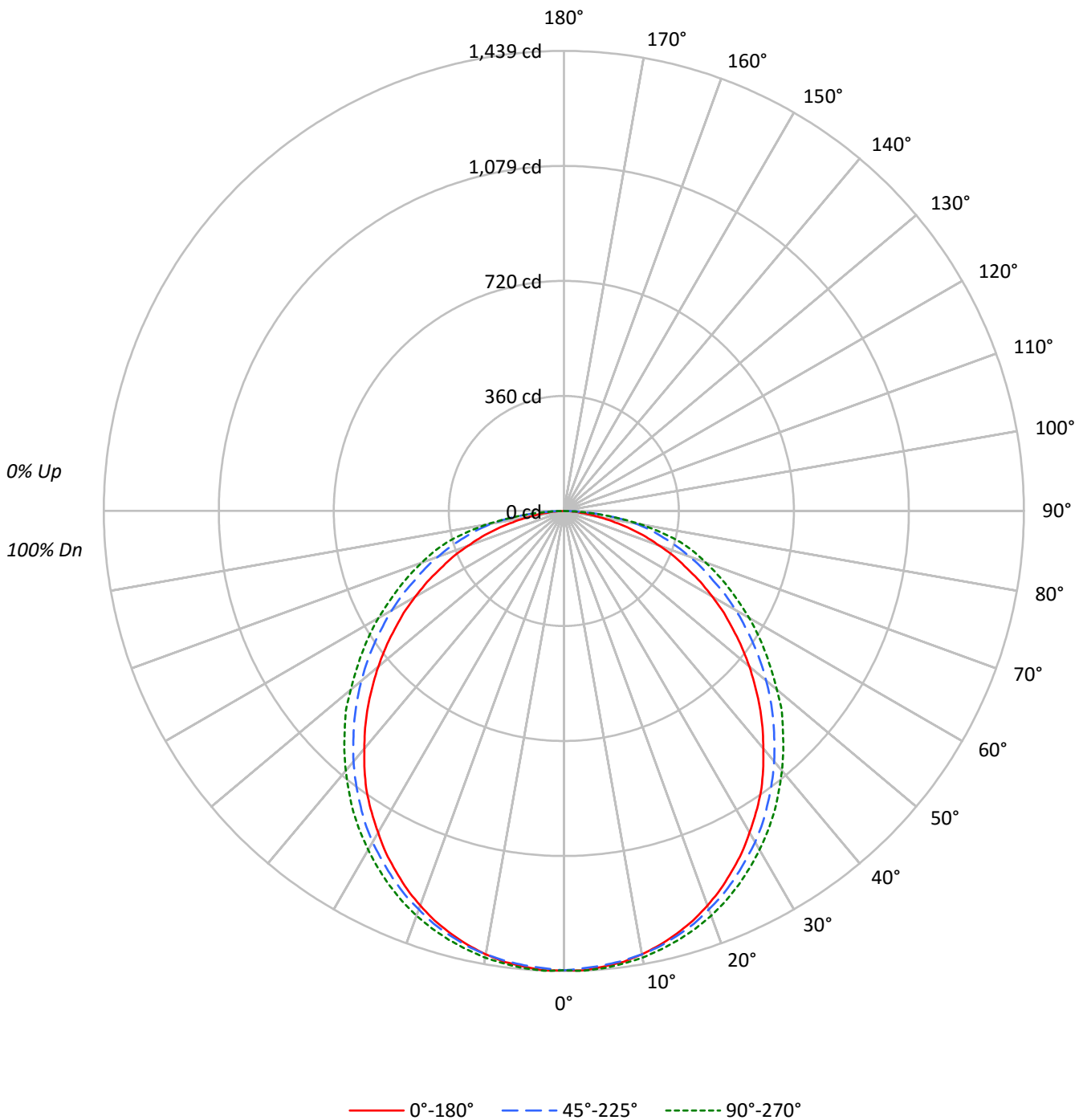
Lumens per Lamp: N/A  
Luminaire Lumens: 4090.0 lumens  
Efficiency: N/A  
Efficacy: 128.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	1933	1933	1933
5°	1932	1927	1939
10°	1924	1924	1938
15°	1906	1915	1935
20°	1881	1899	1929
25°	1846	1881	1917
30°	1804	1859	1901
35°	1765	1829	1886
40°	1705	1798	1864
45°	1649	1763	1844
50°	1585	1730	1822
55°	1515	1697	1804
60°	1444	1671	1801
65°	1352	1642	1812
70°	1252	1651	1860
75°	1121	1682	1965
80°	906	1781	1922
85°	682	1564	1524



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.0	3.3
10°-20°	388.7	9.5
20°-30°	584.3	14.3
30°-40°	696.0	17.0
40°-50°	712.3	17.4
50°-60°	641.3	15.7
60°-70°	503.6	12.3
70°-80°	326.8	8.0
80°-90°	101.1	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°	1109.0	27.1
0°-40°	1804.9	44.1
0°-60°	3158.5	77.2
0°-90°	4090.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4090.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1437	1437	1437	1437	1437	
5°	1430	1433	1426	1434	1436	136
15°	1368	1372	1374	1386	1389	386
25°	1243	1254	1267	1287	1291	573
35°	1074	1087	1113	1141	1148	670
45°	866	887	926	961	969	668
55°	646	674	724	761	769	579
65°	425	457	516	559	569	423
75°	216	257	324	368	378	228
85°	44	82	101	99	99	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1436.8	1436.8	1436.8	1436.8	1436.8
2.5°	1438.1	1438.1	1431.6	1438.1	1439.4
5°	1430.3	1432.9	1426.5	1434.2	1435.5
7.5°	1422.6	1422.6	1418.7	1426.5	1427.7
10°	1408.3	1409.6	1408.3	1417.4	1418.7
12.5°	1390.1	1392.7	1394.0	1403.1	1404.4
15°	1368.0	1371.9	1374.5	1386.2	1388.8
17.5°	1343.3	1347.2	1353.7	1366.7	1369.3
20°	1313.4	1318.6	1326.4	1343.3	1347.2
22.5°	1280.9	1286.1	1299.1	1314.7	1321.2
25°	1243.3	1253.7	1266.7	1287.4	1291.3
27.5°	1205.6	1214.7	1231.6	1253.7	1258.9
30°	1161.4	1175.7	1196.5	1218.6	1223.8
32.5°	1118.6	1132.8	1157.5	1180.9	1187.4
35°	1074.4	1087.4	1113.4	1140.6	1148.4
37.5°	1023.7	1040.6	1069.2	1096.5	1104.3
40°	970.5	991.2	1023.7	1052.3	1061.4
42.5°	919.8	941.9	974.4	1005.5	1015.9
45°	866.5	887.3	926.3	961.4	969.2
47.5°	812.0	835.3	876.9	912.0	925.0
50°	757.4	782.1	826.3	862.6	870.4
52.5°	702.8	728.8	775.6	814.6	818.5
55°	645.7	674.3	723.6	761.3	769.1
57.5°	593.7	618.4	671.7	710.6	719.7
60°	536.5	563.8	621.0	657.4	669.1
62.5°	482.0	510.6	570.3	606.7	617.1
65°	424.8	457.3	515.8	558.6	569.0
67.5°	375.5	406.6	469.0	510.6	521.0
70°	318.3	353.4	419.6	462.5	472.9
72.5°	268.9	305.3	371.6	413.1	428.7
75°	215.7	257.2	323.5	367.7	378.0
77.5°	163.7	211.8	279.3	313.1	313.1
80°	116.9	167.6	229.9	245.5	248.1
82.5°	76.6	126.0	170.2	168.9	168.9
85°	44.2	81.8	101.3	98.7	98.7
87.5°	16.9	33.8	36.4	36.4	35.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)