

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: P311452

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CA125-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: P311452  
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: 24FCZ2-45HE-UNV-L82765-S-CA125-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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

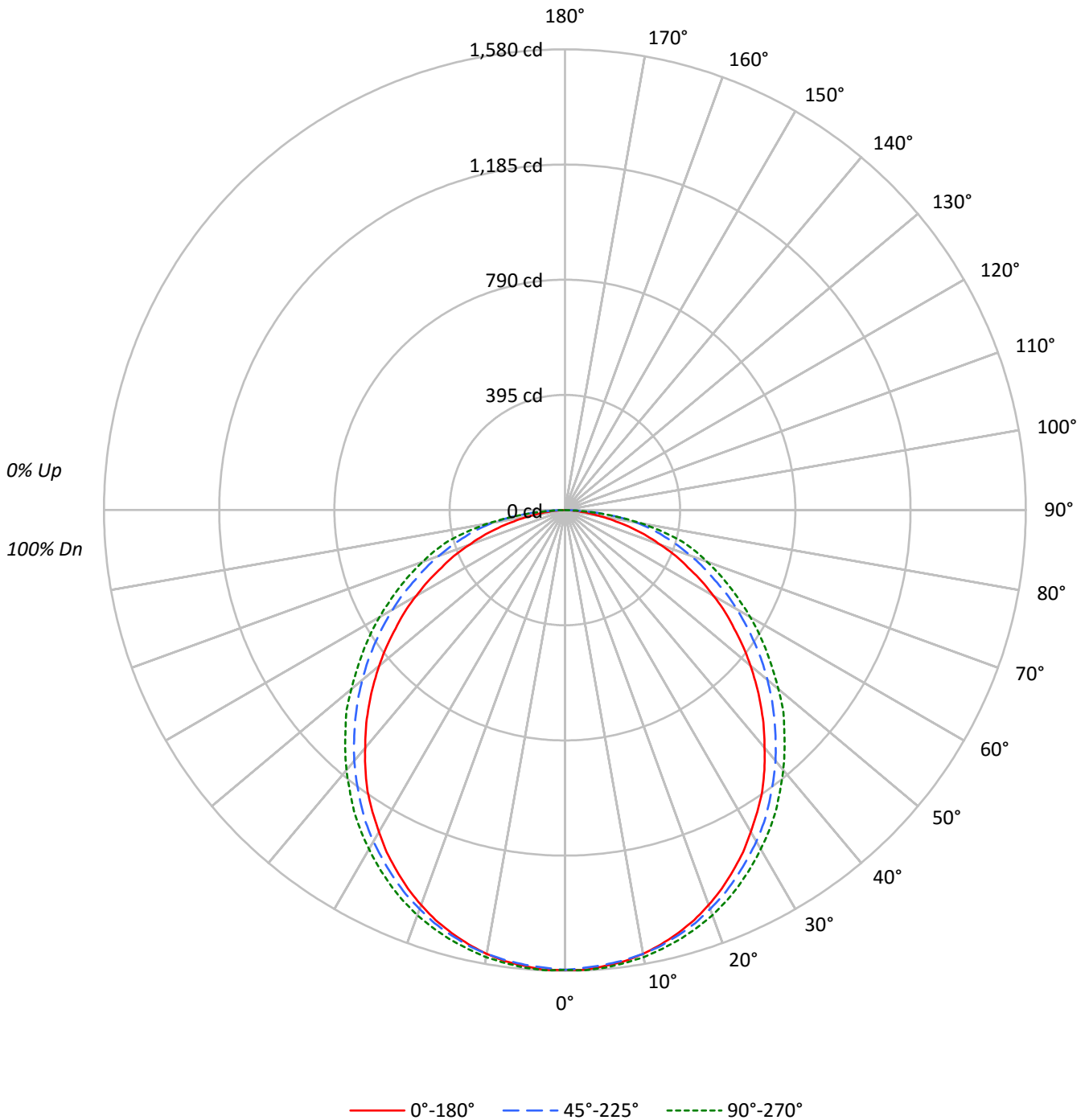
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4488.0 lumens  
Efficiency: N/A  
Efficacy: 127.1 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 (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°	2121	2121	2121
5°	2120	2114	2128
10°	2111	2111	2127
15°	2091	2101	2123
20°	2064	2084	2117
25°	2025	2063	2104
30°	1980	2040	2086
35°	1936	2007	2070
40°	1870	1973	2046
45°	1809	1934	2024
50°	1740	1898	1999
55°	1662	1863	1980
60°	1584	1834	1976
65°	1484	1802	1988
70°	1374	1812	2041
75°	1230	1845	2156
80°	994	1955	2110
85°	749	1717	1672



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.3	3.3
10°-20°	426.5	9.5
20°-30°	641.1	14.3
30°-40°	763.7	17.0
40°-50°	781.6	17.4
50°-60°	703.7	15.7
60°-70°	552.6	12.3
70°-80°	358.7	8.0
80°-90°	110.9	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°	1216.9	27.1
0°-40°	1980.6	44.1
0°-60°	3465.8	77.2
0°-90°	4488.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4488.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1570	1572	1565	1574	1575	149
15°	1501	1505	1508	1521	1524	423
25°	1364	1376	1390	1413	1417	628
35°	1179	1193	1222	1252	1260	735
45°	951	974	1016	1055	1064	733
55°	708	740	794	835	844	635
65°	466	502	566	613	624	464
75°	237	282	355	403	415	250
85°	48	90	111	108	108	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1576.7	1576.7	1576.7	1576.7	1576.7
2.5°	1578.1	1578.1	1571.0	1578.1	1579.5
5°	1569.5	1572.4	1565.3	1573.8	1575.2
7.5°	1561.0	1561.0	1556.7	1565.3	1566.7
10°	1545.3	1546.7	1545.3	1555.3	1556.7
12.5°	1525.3	1528.2	1529.6	1539.6	1541.0
15°	1501.1	1505.4	1508.2	1521.1	1523.9
17.5°	1474.0	1478.3	1485.4	1499.7	1502.5
20°	1441.2	1446.9	1455.5	1474.0	1478.3
22.5°	1405.6	1411.3	1425.6	1442.7	1449.8
25°	1364.3	1375.7	1389.9	1412.7	1417.0
27.5°	1322.9	1332.9	1351.4	1375.7	1381.4
30°	1274.4	1290.1	1312.9	1337.2	1342.9
32.5°	1227.4	1243.1	1270.2	1295.8	1303.0
35°	1178.9	1193.2	1221.7	1251.6	1260.2
37.5°	1123.3	1141.9	1173.2	1203.2	1211.7
40°	1064.9	1087.7	1123.3	1154.7	1164.7
42.5°	1009.3	1033.5	1069.2	1103.4	1114.8
45°	950.8	973.7	1016.4	1054.9	1063.5
47.5°	891.0	916.6	962.2	1000.7	1015.0
50°	831.1	858.2	906.7	946.6	955.1
52.5°	771.2	799.7	851.1	893.8	898.1
55°	708.5	739.9	794.0	835.4	843.9
57.5°	651.5	678.6	737.0	779.8	789.8
60°	588.8	618.7	681.4	721.3	734.2
62.5°	528.9	560.2	625.8	665.7	677.1
65°	466.2	501.8	565.9	613.0	624.4
67.5°	412.0	446.2	514.6	560.2	571.6
70°	349.3	387.8	460.5	507.5	518.9
72.5°	295.1	335.0	407.7	453.3	470.4
75°	236.6	282.3	355.0	403.4	414.8
77.5°	179.6	232.4	306.5	343.6	343.6
80°	128.3	183.9	252.3	269.4	272.3
82.5°	84.1	138.3	186.7	185.3	185.3
85°	48.5	89.8	111.2	108.3	108.3
87.5°	18.5	37.1	39.9	39.9	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)