

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: P311449

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CA125-W2A-U-5000K**

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: P311449  
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-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 5000K 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**

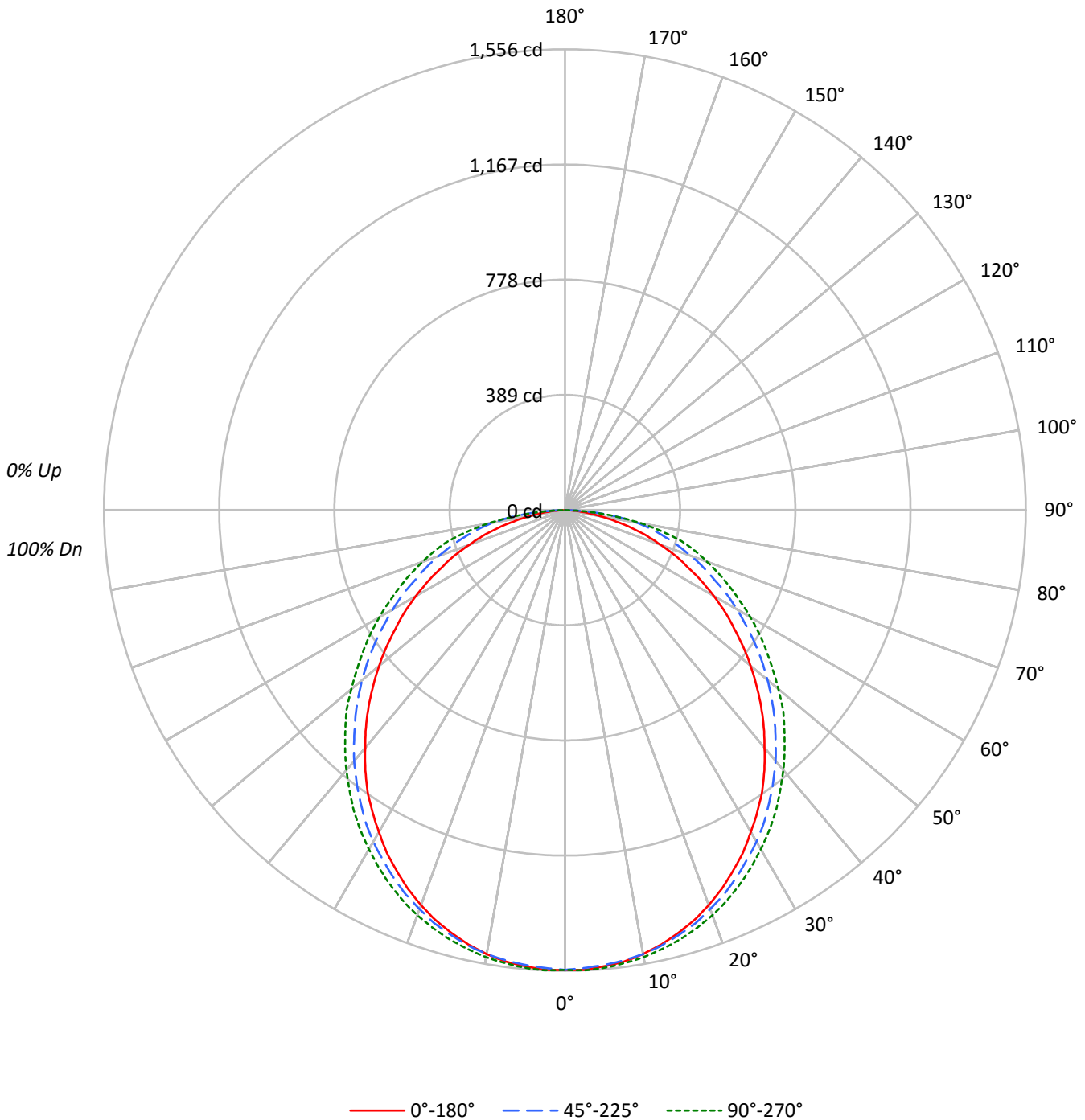
Lumens per Lamp: N/A  
Luminaire Lumens: 4421.0 lumens  
Efficiency: N/A  
Efficacy: 127.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2090	2090	2090
5°	2088	2083	2096
10°	2080	2080	2095
15°	2060	2070	2091
20°	2033	2053	2085
25°	1995	2033	2072
30°	1950	2009	2055
35°	1907	1977	2039
40°	1842	1944	2015
45°	1782	1905	1993
50°	1714	1869	1970
55°	1637	1835	1950
60°	1561	1806	1946
65°	1462	1775	1958
70°	1353	1784	2011
75°	1212	1818	2124
80°	979	1926	2078
85°	736	1690	1647



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.0	3.3
10°-20°	420.1	9.5
20°-30°	631.6	14.3
30°-40°	752.3	17.0
40°-50°	769.9	17.4
50°-60°	693.2	15.7
60°-70°	544.4	12.3
70°-80°	353.3	8.0
80°-90°	109.3	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°	1198.7	27.1
0°-40°	1951.0	44.1
0°-60°	3414.1	77.2
0°-90°	4421.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4421.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1553	1553	1553	1553	1553	
5°	1546	1549	1542	1550	1552	147
15°	1479	1483	1486	1498	1501	417
25°	1344	1355	1369	1392	1396	619
35°	1161	1175	1204	1233	1241	724
45°	937	959	1001	1039	1048	722
55°	698	729	782	823	831	626
65°	459	494	558	604	615	457
75°	233	278	350	397	409	247
85°	48	88	110	107	107	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1553.1	1553.1	1553.1	1553.1	1553.1
2.5°	1554.5	1554.5	1547.5	1554.5	1555.9
5°	1546.1	1548.9	1541.9	1550.3	1551.7
7.5°	1537.7	1537.7	1533.5	1541.9	1543.3
10°	1522.2	1523.6	1522.2	1532.1	1533.5
12.5°	1502.6	1505.4	1506.8	1516.6	1518.0
15°	1478.7	1482.9	1485.7	1498.4	1501.2
17.5°	1452.0	1456.2	1463.3	1477.3	1480.1
20°	1419.7	1425.3	1433.8	1452.0	1456.2
22.5°	1384.6	1390.2	1404.3	1421.1	1428.1
25°	1343.9	1355.1	1369.2	1391.6	1395.8
27.5°	1303.2	1313.0	1331.3	1355.1	1360.7
30°	1255.4	1270.9	1293.3	1317.2	1322.8
32.5°	1209.1	1224.5	1251.2	1276.5	1283.5
35°	1161.3	1175.4	1203.5	1233.0	1241.4
37.5°	1106.6	1124.8	1155.7	1185.2	1193.6
40°	1049.0	1071.5	1106.6	1137.5	1147.3
42.5°	994.2	1018.1	1053.2	1086.9	1098.1
45°	936.7	959.1	1001.2	1039.2	1047.6
47.5°	877.7	902.9	947.9	985.8	999.8
50°	818.7	845.4	893.1	932.4	940.9
52.5°	759.7	787.8	838.4	880.5	884.7
55°	697.9	728.8	782.2	822.9	831.3
57.5°	641.8	668.4	726.0	768.1	778.0
60°	580.0	609.5	671.2	710.6	723.2
62.5°	521.0	551.9	616.5	655.8	667.0
65°	459.2	494.3	557.5	603.8	615.1
67.5°	405.8	439.5	506.9	551.9	563.1
70°	344.0	382.0	453.6	499.9	511.2
72.5°	290.7	330.0	401.6	446.6	463.4
75°	233.1	278.0	349.7	397.4	408.6
77.5°	176.9	228.9	301.9	338.4	338.4
80°	126.4	181.2	248.6	265.4	268.2
82.5°	82.9	136.2	184.0	182.6	182.6
85°	47.7	88.5	109.5	106.7	106.7
87.5°	18.3	36.5	39.3	39.3	37.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)