

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: P314316

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CA08-W2A-U-3500K**

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: P314316  
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-L83050-S-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3500K 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**

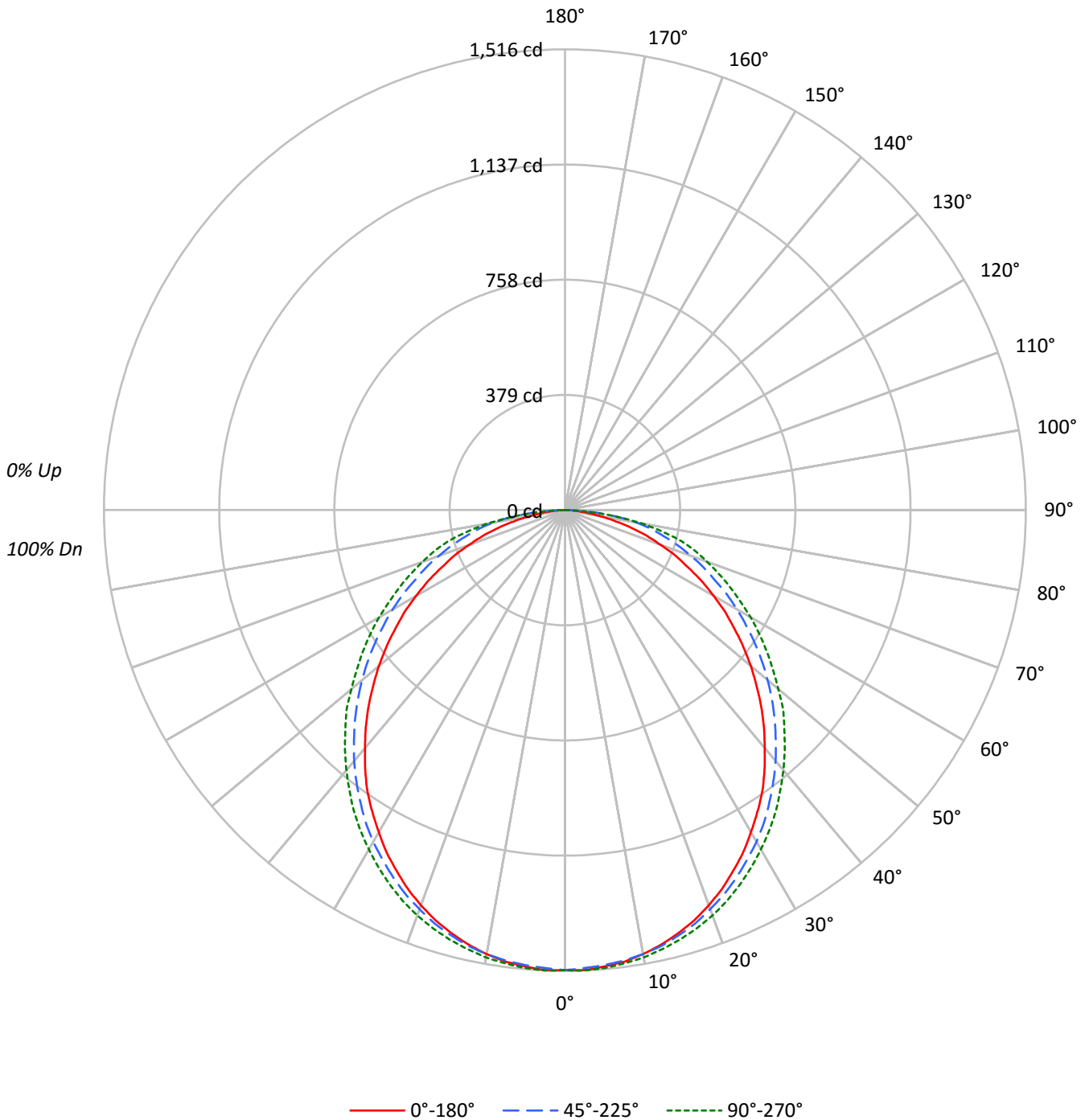
Lumens per Lamp: N/A  
Luminaire Lumens: 4309.0 lumens  
Efficiency: N/A  
Efficacy: 127.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2037	2037	2037
5°	2035	2030	2043
10°	2027	2027	2042
15°	2008	2017	2038
20°	1981	2001	2032
25°	1945	1981	2020
30°	1901	1959	2003
35°	1859	1927	1987
40°	1796	1894	1964
45°	1737	1857	1943
50°	1670	1822	1919
55°	1596	1788	1901
60°	1521	1760	1897
65°	1425	1730	1909
70°	1319	1739	1960
75°	1181	1772	2071
80°	955	1877	2025
85°	718	1649	1606



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.3	3.3
10°-20°	409.5	9.5
20°-30°	615.6	14.3
30°-40°	733.2	17.0
40°-50°	750.4	17.4
50°-60°	675.6	15.7
60°-70°	530.6	12.3
70°-80°	344.3	8.0
80°-90°	106.5	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°	1168.3	27.1
0°-40°	1901.6	44.1
0°-60°	3327.6	77.2
0°-90°	4309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4309.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1514	1514	1514	1514	1514	
5°	1507	1510	1503	1511	1512	143
15°	1441	1445	1448	1460	1463	406
25°	1310	1321	1334	1356	1360	603
35°	1132	1146	1173	1202	1210	706
45°	913	935	976	1013	1021	704
55°	680	710	762	802	810	610
65°	448	482	543	588	600	446
75°	227	271	341	387	398	240
85°	46	86	107	104	104	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1513.8	1513.8	1513.8	1513.8	1513.8
2.5°	1515.1	1515.1	1508.3	1515.1	1516.5
5°	1506.9	1509.7	1502.8	1511.0	1512.4
7.5°	1498.7	1498.7	1494.6	1502.8	1504.2
10°	1483.7	1485.0	1483.7	1493.2	1494.6
12.5°	1464.5	1467.2	1468.6	1478.2	1479.6
15°	1441.2	1445.3	1448.1	1460.4	1463.1
17.5°	1415.2	1419.3	1426.2	1439.9	1442.6
20°	1383.8	1389.2	1397.4	1415.2	1419.3
22.5°	1349.5	1355.0	1368.7	1385.1	1392.0
25°	1309.8	1320.8	1334.5	1356.4	1360.5
27.5°	1270.2	1279.7	1297.5	1320.8	1326.3
30°	1223.6	1238.7	1260.6	1283.8	1289.3
32.5°	1178.4	1193.5	1219.5	1244.1	1251.0
35°	1131.9	1145.6	1173.0	1201.7	1209.9
37.5°	1078.5	1096.3	1126.4	1155.2	1163.4
40°	1022.4	1044.3	1078.5	1108.6	1118.2
42.5°	969.0	992.3	1026.5	1059.4	1070.3
45°	912.9	934.8	975.9	1012.8	1021.0
47.5°	855.4	880.1	923.9	960.8	974.5
50°	798.0	824.0	870.5	908.8	917.0
52.5°	740.5	767.8	817.1	858.2	862.3
55°	680.2	710.4	762.4	802.1	810.3
57.5°	625.5	651.5	707.6	748.7	758.3
60°	565.3	594.0	654.2	692.6	704.9
62.5°	507.8	537.9	600.9	639.2	650.1
65°	447.6	481.8	543.4	588.5	599.5
67.5°	395.6	428.4	494.1	537.9	548.8
70°	335.3	372.3	442.1	487.3	498.2
72.5°	283.3	321.6	391.4	435.2	451.7
75°	227.2	271.0	340.8	387.3	398.3
77.5°	172.5	223.1	294.3	329.9	329.9
80°	123.2	176.6	242.3	258.7	261.4
82.5°	80.8	132.8	179.3	177.9	177.9
85°	46.5	86.2	106.8	104.0	104.0
87.5°	17.8	35.6	38.3	38.3	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)