

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: P314315

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CA08-W2A-U-3000K**

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: P314315  
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-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3000K 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**

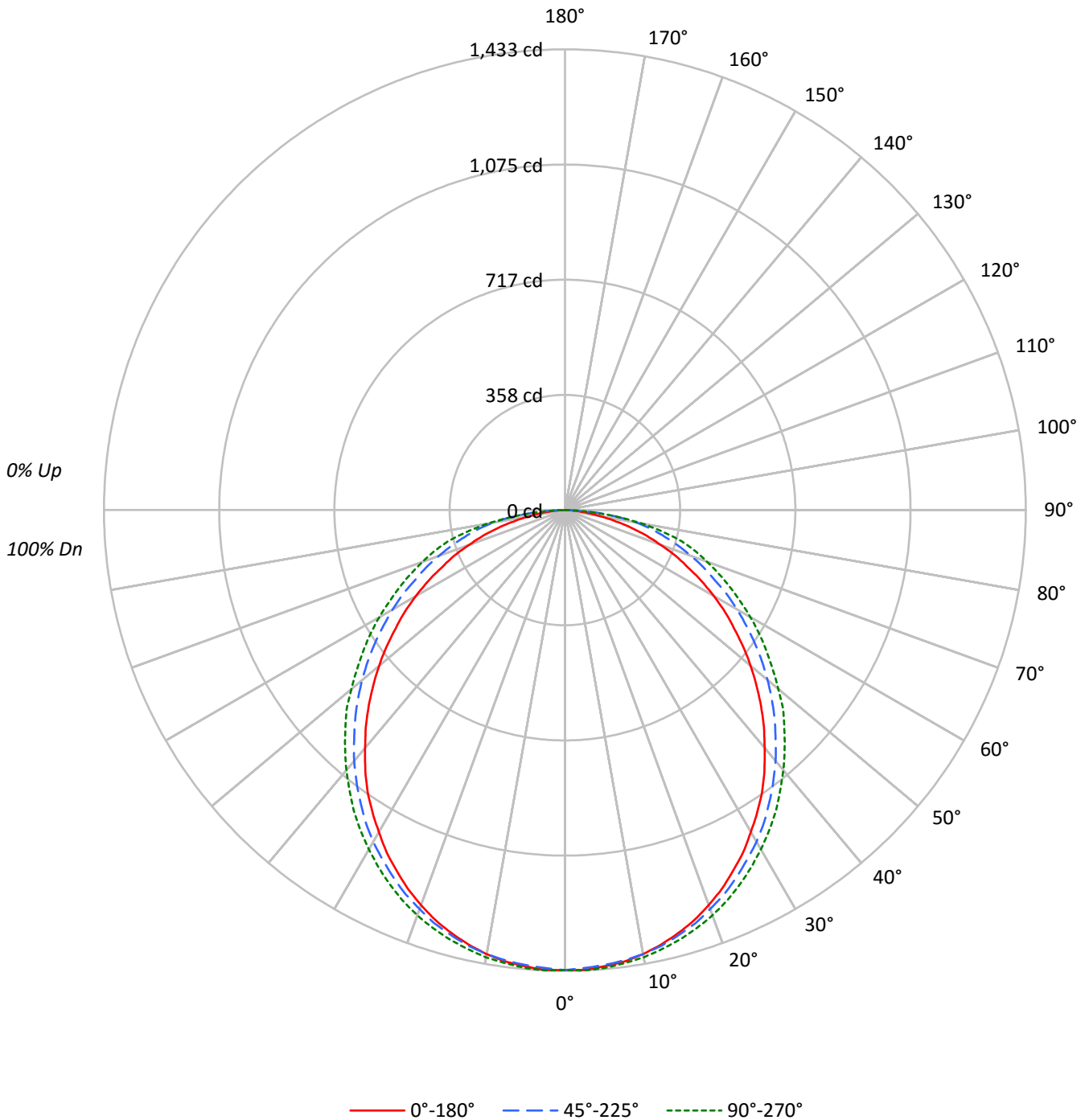
Lumens per Lamp: N/A  
Luminaire Lumens: 4072.0 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1925	1925	1925
5°	1923	1918	1930
10°	1916	1916	1930
15°	1897	1906	1926
20°	1872	1891	1921
25°	1838	1872	1909
30°	1796	1851	1893
35°	1757	1821	1878
40°	1697	1790	1856
45°	1642	1755	1836
50°	1578	1722	1814
55°	1508	1690	1796
60°	1438	1664	1792
65°	1346	1635	1804
70°	1247	1644	1852
75°	1116	1674	1957
80°	902	1774	1914
85°	679	1558	1518



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.4	3.3
10°-20°	387.0	9.5
20°-30°	581.7	14.3
30°-40°	692.9	17.0
40°-50°	709.1	17.4
50°-60°	638.4	15.7
60°-70°	501.4	12.3
70°-80°	325.4	8.0
80°-90°	100.6	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°	1104.1	27.1
0°-40°	1797.0	44.1
0°-60°	3144.6	77.2
0°-90°	4072.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4072.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1430	1430	1430	1430	1430	
5°	1424	1427	1420	1428	1429	135
15°	1362	1366	1368	1380	1383	384
25°	1238	1248	1261	1282	1286	570
35°	1070	1083	1108	1136	1143	667
45°	863	883	922	957	965	665
55°	643	671	720	758	766	576
65°	423	455	514	556	566	421
75°	215	256	322	366	376	227
85°	44	82	101	98	98	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1430.5	1430.5	1430.5	1430.5	1430.5
2.5°	1431.8	1431.8	1425.3	1431.8	1433.1
5°	1424.1	1426.6	1420.2	1427.9	1429.2
7.5°	1416.3	1416.3	1412.4	1420.2	1421.5
10°	1402.1	1403.4	1402.1	1411.1	1412.4
12.5°	1384.0	1386.5	1387.8	1396.9	1398.2
15°	1362.0	1365.8	1368.4	1380.1	1382.7
17.5°	1337.4	1341.3	1347.7	1360.7	1363.3
20°	1307.6	1312.8	1320.6	1337.4	1341.3
22.5°	1275.3	1280.5	1293.4	1308.9	1315.4
25°	1237.8	1248.1	1261.1	1281.8	1285.7
27.5°	1200.3	1209.3	1226.2	1248.1	1253.3
30°	1156.3	1170.5	1191.2	1213.2	1218.4
32.5°	1113.6	1127.9	1152.4	1175.7	1182.2
35°	1069.7	1082.6	1108.5	1135.6	1143.4
37.5°	1019.2	1036.0	1064.5	1091.6	1099.4
40°	966.2	986.9	1019.2	1047.7	1056.7
42.5°	915.7	937.7	970.1	1001.1	1011.5
45°	862.7	883.4	922.2	957.1	964.9
47.5°	808.4	831.7	873.1	908.0	920.9
50°	754.1	778.6	822.6	858.8	866.6
52.5°	699.7	725.6	772.2	811.0	814.9
55°	642.8	671.3	720.4	757.9	765.7
57.5°	591.1	615.7	668.7	707.5	716.6
60°	534.2	561.3	618.3	654.5	666.1
62.5°	479.9	508.3	567.8	604.0	614.4
65°	422.9	455.3	513.5	556.2	566.5
67.5°	373.8	404.8	466.9	508.3	518.7
70°	316.9	351.8	417.8	460.5	470.8
72.5°	267.7	304.0	369.9	411.3	426.8
75°	214.7	256.1	322.1	366.0	376.4
77.5°	163.0	210.8	278.1	311.7	311.7
80°	116.4	166.9	228.9	244.5	247.0
82.5°	76.3	125.5	169.4	168.1	168.1
85°	44.0	81.5	100.9	98.3	98.3
87.5°	16.8	33.6	36.2	36.2	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)