

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: P314355

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CP187-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: P314355  
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: 24FCZ2-45-UNV-L83050-S-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 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**

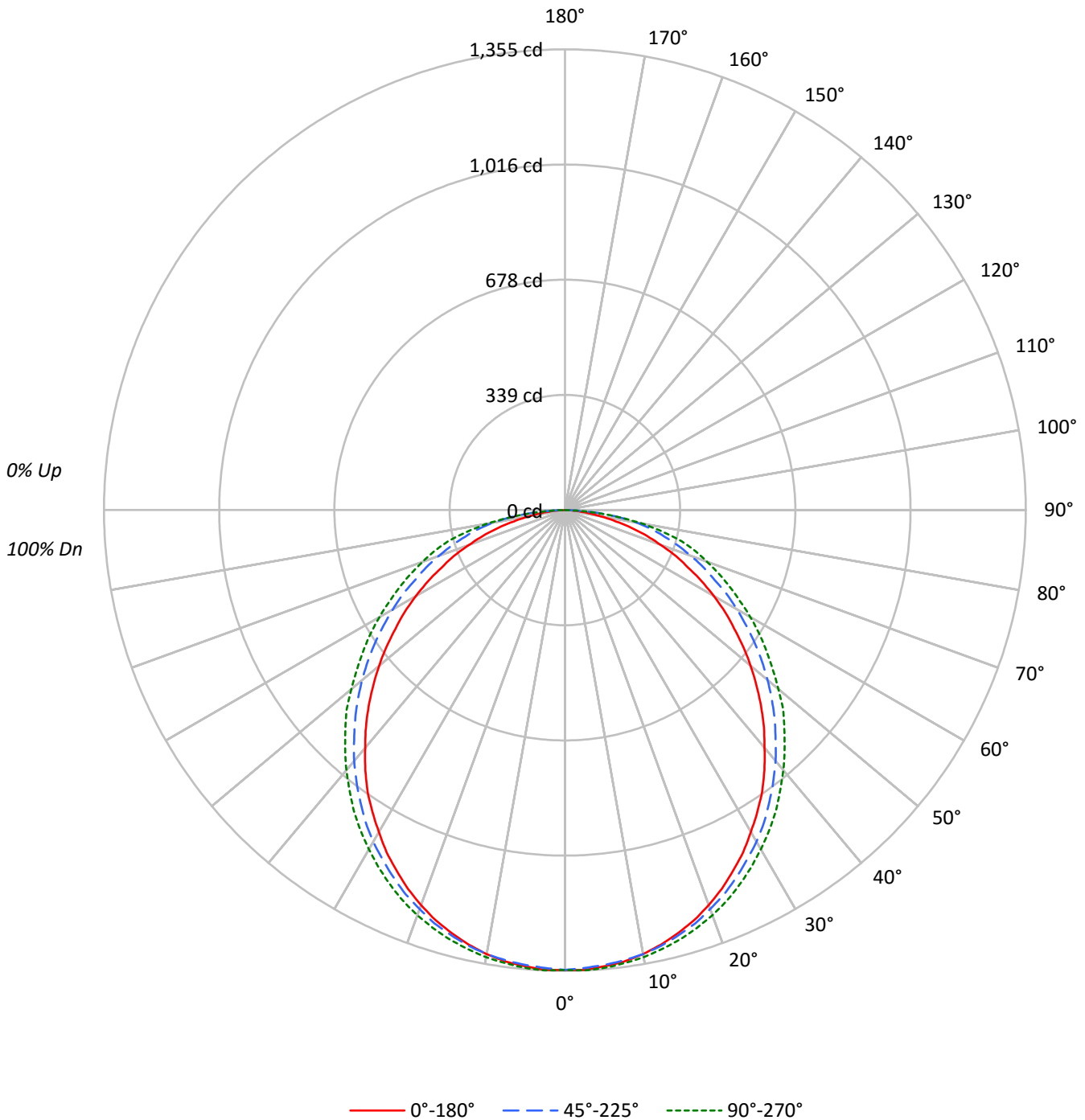
Lumens per Lamp: N/A  
Luminaire Lumens: 3850.0 lumens  
Efficiency: N/A  
Efficacy: 102.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 37.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1820	1820	1820
5°	1818	1813	1825
10°	1811	1811	1824
15°	1794	1802	1821
20°	1770	1788	1816
25°	1737	1770	1805
30°	1699	1750	1790
35°	1661	1721	1776
40°	1604	1692	1755
45°	1552	1659	1736
50°	1492	1628	1715
55°	1426	1598	1698
60°	1359	1573	1695
65°	1273	1546	1705
70°	1179	1554	1751
75°	1055	1583	1850
80°	853	1678	1810
85°	642	1473	1434



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.0	3.3
10°-20°	365.9	9.5
20°-30°	550.0	14.3
30°-40°	655.1	17.0
40°-50°	670.5	17.4
50°-60°	603.6	15.7
60°-70°	474.1	12.3
70°-80°	307.7	8.0
80°-90°	95.1	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°	1043.9	27.1
0°-40°	1699.0	44.1
0°-60°	2973.1	77.2
0°-90°	3850.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3850.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1352	1352	1352	1352	1352	
5°	1346	1349	1343	1350	1351	128
15°	1288	1291	1294	1305	1307	363
25°	1170	1180	1192	1212	1216	539
35°	1011	1024	1048	1074	1081	631
45°	816	835	872	905	912	629
55°	608	635	681	717	724	545
65°	400	430	486	526	536	398
75°	203	242	304	346	356	215
85°	42	77	95	93	93	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1352.5	1352.5	1352.5	1352.5	1352.5
2.5°	1353.8	1353.8	1347.6	1353.8	1355.0
5°	1346.4	1348.9	1342.7	1350.1	1351.3
7.5°	1339.1	1339.1	1335.4	1342.7	1344.0
10°	1325.6	1326.8	1325.6	1334.2	1335.4
12.5°	1308.5	1311.0	1312.2	1320.7	1322.0
15°	1287.7	1291.4	1293.8	1304.8	1307.3
17.5°	1264.5	1268.1	1274.3	1286.5	1288.9
20°	1236.4	1241.2	1248.6	1264.5	1268.1
22.5°	1205.8	1210.7	1222.9	1237.6	1243.7
25°	1170.3	1180.1	1192.3	1211.9	1215.6
27.5°	1134.9	1143.4	1159.3	1180.1	1185.0
30°	1093.3	1106.7	1126.3	1147.1	1152.0
32.5°	1052.9	1066.4	1089.6	1111.6	1117.7
35°	1011.3	1023.6	1048.0	1073.7	1081.0
37.5°	963.6	979.5	1006.4	1032.1	1039.5
40°	913.5	933.1	963.6	990.6	999.1
42.5°	865.8	886.6	917.2	946.5	956.3
45°	815.7	835.2	871.9	904.9	912.3
47.5°	764.3	786.3	825.5	858.5	870.7
50°	713.0	736.2	777.8	812.0	819.3
52.5°	661.6	686.0	730.1	766.8	770.4
55°	607.8	634.7	681.2	716.6	724.0
57.5°	558.9	582.1	632.2	668.9	677.5
60°	505.1	530.7	584.5	618.8	629.8
62.5°	453.7	480.6	536.9	571.1	580.9
65°	399.9	430.5	485.5	525.8	535.6
67.5°	353.4	382.8	441.5	480.6	490.4
70°	299.6	332.6	395.0	435.4	445.1
72.5°	253.1	287.4	349.8	388.9	403.6
75°	203.0	242.1	304.5	346.1	355.9
77.5°	154.1	199.3	262.9	294.7	294.7
80°	110.1	157.8	216.5	231.1	233.6
82.5°	72.2	118.6	160.2	159.0	159.0
85°	41.6	77.0	95.4	92.9	92.9
87.5°	15.9	31.8	34.2	34.2	33.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)