

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: P313958

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP187-W2A-U-4500K**

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: P313958  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4500K 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**

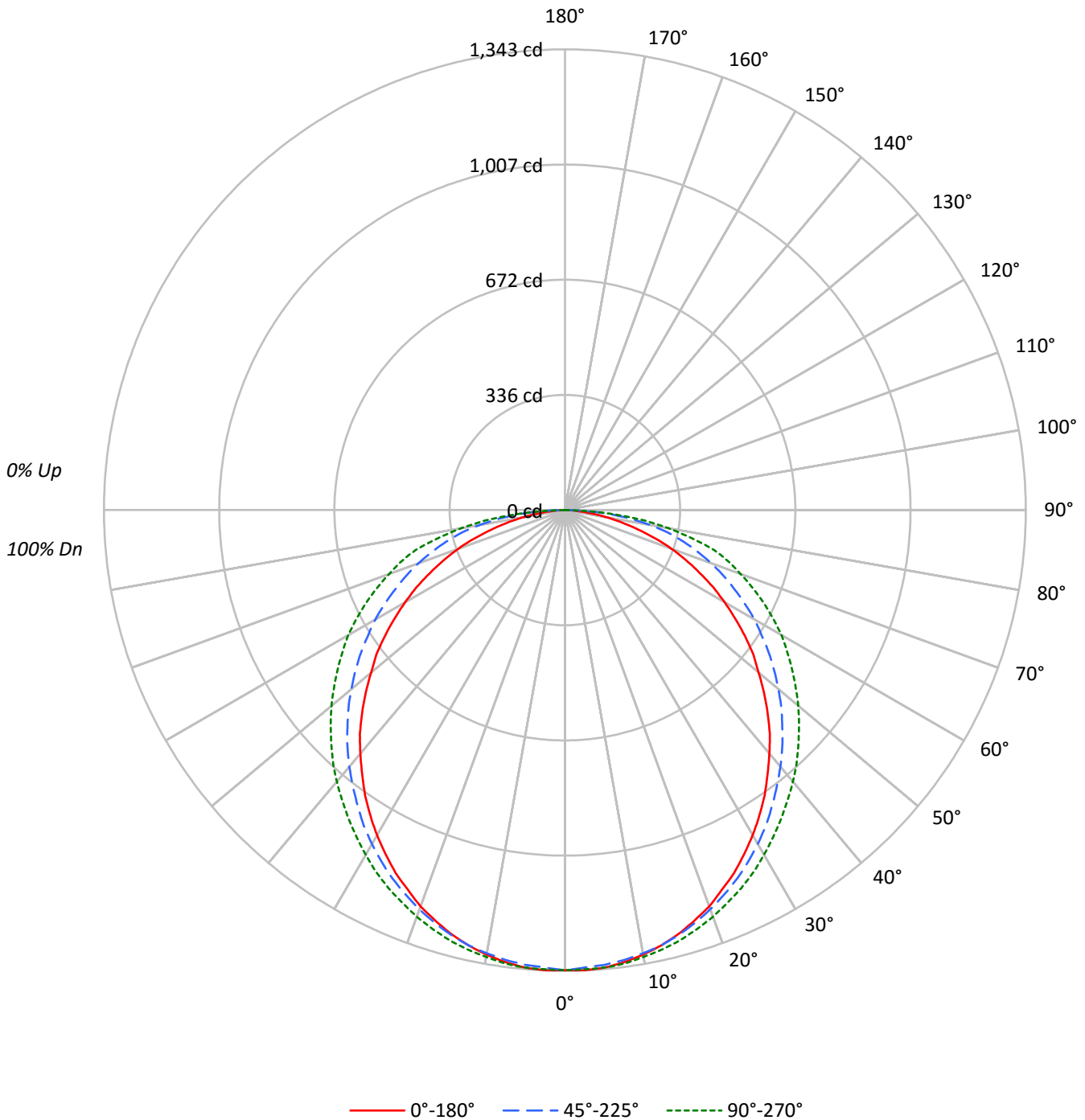
Lumens per Lamp: N/A  
Luminaire Lumens: 4067.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1805	1805	1805
5°	1808	1797	1808
10°	1797	1792	1807
15°	1782	1786	1808
20°	1760	1774	1806
25°	1733	1761	1805
30°	1700	1746	1803
35°	1667	1729	1804
40°	1628	1716	1815
45°	1589	1705	1831
50°	1542	1700	1859
55°	1503	1703	1896
60°	1445	1717	1961
65°	1379	1735	2032
70°	1306	1789	2144
75°	1164	1866	2343
80°	993	1976	2394
85°	709	1958	2291



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.9	3.1
10°-20°	363.0	8.9
20°-30°	548.2	13.5
30°-40°	660.7	16.2
40°-50°	693.6	17.1
50°-60°	648.9	16.0
60°-70°	535.9	13.2
70°-80°	365.2	9.0
80°-90°	124.5	3.1
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°	1038.1	25.5
0°-40°	1698.8	41.8
0°-60°	3041.4	74.8
0°-90°	4067.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4067.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1339	1337	1330	1339	1339	127
15°	1279	1280	1282	1295	1298	361
25°	1167	1173	1186	1209	1216	537
35°	1015	1026	1052	1088	1098	634
45°	835	853	896	945	962	644
55°	641	667	726	785	808	572
65°	433	470	545	614	638	430
75°	224	275	359	426	451	239
85°	46	90	127	143	148	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1341.3	1341.3	1341.3	1341.3	1341.3
2.5°	1342.6	1341.3	1334.5	1341.3	1339.9
5°	1338.6	1337.2	1330.5	1338.6	1338.6
7.5°	1329.1	1329.1	1322.4	1331.8	1333.2
10°	1315.6	1315.6	1311.6	1322.4	1322.4
12.5°	1299.4	1299.4	1299.4	1310.2	1311.6
15°	1279.2	1280.5	1281.9	1295.4	1298.1
17.5°	1254.9	1257.6	1261.6	1277.8	1280.5
20°	1229.3	1232.0	1238.7	1257.6	1261.6
22.5°	1196.9	1203.6	1213.1	1234.7	1238.7
25°	1167.2	1172.6	1186.1	1209.0	1215.8
27.5°	1130.8	1138.9	1156.4	1180.7	1190.1
30°	1094.3	1102.4	1124.0	1152.4	1160.4
32.5°	1055.2	1067.3	1090.3	1120.0	1129.4
35°	1014.7	1025.5	1052.5	1087.6	1098.4
37.5°	970.2	985.0	1014.7	1052.5	1066.0
40°	927.0	943.2	976.9	1017.4	1033.6
42.5°	883.8	900.0	937.8	983.7	999.9
45°	835.3	852.8	896.0	944.6	962.1
47.5°	786.7	808.3	855.5	906.8	925.7
50°	736.7	761.0	812.3	866.3	887.9
52.5°	692.2	715.2	769.1	827.2	847.4
55°	640.9	666.6	726.0	785.3	808.3
57.5°	588.3	616.7	680.1	744.8	767.8
60°	537.0	568.1	638.2	703.0	728.7
62.5°	487.1	518.2	591.0	658.5	684.1
65°	433.1	469.6	545.1	614.0	638.2
67.5°	381.9	421.0	500.6	568.1	592.4
70°	331.9	369.7	454.7	520.9	545.1
72.5°	278.0	321.1	406.2	475.0	500.6
75°	224.0	275.3	358.9	426.4	450.7
77.5°	174.1	226.7	310.4	365.7	377.8
80°	128.2	182.2	255.0	294.2	309.0
82.5°	82.3	136.3	194.3	222.6	234.8
85°	45.9	90.4	126.8	143.0	148.4
87.5°	18.9	39.1	51.3	58.0	58.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)