

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: P313569

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-RDP-CA08-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: P313569  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
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-RDP-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" 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: 2923.0 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

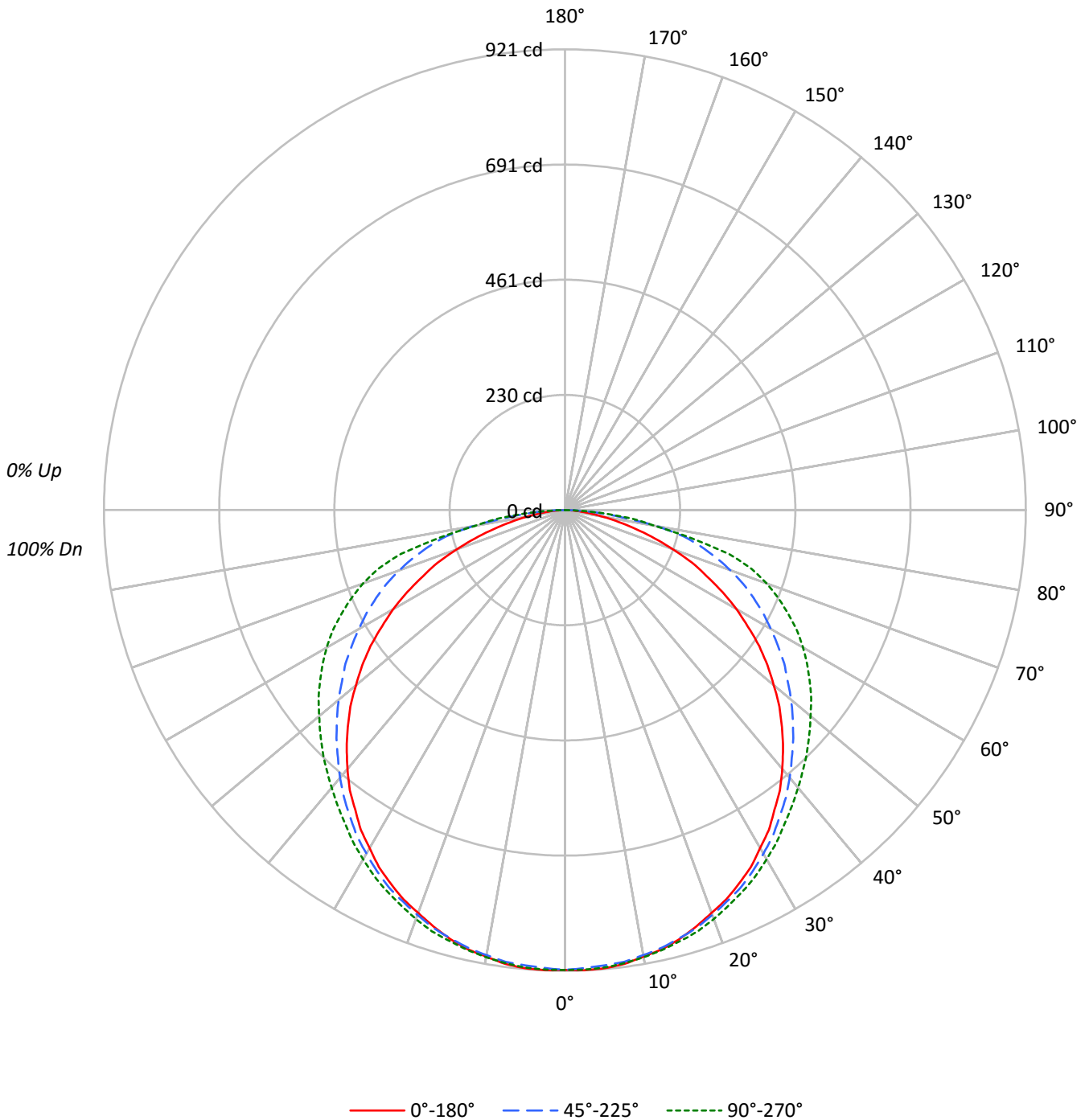
Input Watts (W): 35.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1237	1237	1237
5°	1241	1234	1240
10°	1238	1234	1240
15°	1236	1234	1242
20°	1227	1233	1246
25°	1223	1235	1248
30°	1212	1232	1252
35°	1200	1229	1257
40°	1187	1227	1273
45°	1167	1228	1302
50°	1141	1235	1341
55°	1112	1255	1401
60°	1065	1280	1479
65°	997	1325	1569
70°	907	1386	1688
75°	769	1462	1764
80°	607	1471	1426
85°	448	1119	1254



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.2	3.0
10°-20°	251.0	8.6
20°-30°	383.8	13.1
30°-40°	469.1	16.0
40°-50°	500.0	17.1
50°-60°	478.0	16.4
60°-70°	405.0	13.9
70°-80°	272.2	9.3
80°-90°	76.8	2.6
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°	721.9	24.7
0°-40°	1191.0	40.7
0°-60°	2169.1	74.2
0°-90°	2923.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2923.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	919	919	919	919	919	
5°	919	918	913	918	918	87
15°	887	887	886	893	892	250
25°	824	826	832	840	841	380
35°	731	736	748	763	766	458
45°	613	623	645	673	684	473
55°	474	492	535	577	597	422
65°	313	345	416	471	493	311
75°	148	202	281	329	339	158
85°	29	59	72	78	81	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	919.2	919.2	919.2	919.2	919.2
2.5°	920.6	920.6	916.3	919.2	919.2
5°	919.2	917.8	913.4	917.8	917.8
7.5°	914.9	913.4	910.5	914.9	913.4
10°	906.2	906.2	903.3	907.6	907.6
12.5°	898.9	897.5	896.0	901.8	900.4
15°	887.3	887.3	885.9	893.1	891.7
17.5°	872.8	874.3	875.7	881.5	883.0
20°	856.9	859.8	861.2	869.9	869.9
22.5°	842.4	843.8	846.7	855.4	855.4
25°	823.5	826.4	832.2	839.5	840.9
27.5°	804.7	806.1	813.4	823.5	825.0
30°	780.0	784.4	793.1	804.7	806.1
32.5°	758.3	762.6	772.8	784.4	787.3
35°	730.7	736.5	748.1	762.6	765.5
37.5°	706.1	710.4	724.9	740.9	745.2
40°	675.6	684.3	698.8	717.7	724.9
42.5°	645.2	653.9	671.3	695.9	704.6
45°	613.3	623.4	645.2	672.7	684.3
47.5°	581.4	593.0	617.6	649.5	662.6
50°	545.1	559.6	590.1	626.3	640.8
52.5°	510.3	527.7	561.1	601.7	620.5
55°	474.1	491.5	535.0	577.0	597.3
57.5°	433.5	456.7	504.5	552.4	574.1
60°	395.8	417.6	475.5	527.7	549.5
62.5°	355.2	384.2	446.6	501.6	523.4
65°	313.2	345.1	416.1	471.2	492.9
67.5°	275.5	310.3	385.7	440.8	462.5
70°	230.5	274.0	352.3	407.4	429.2
72.5°	188.5	236.3	317.5	371.2	391.5
75°	147.9	201.5	281.3	329.1	339.3
77.5°	110.2	166.7	243.6	263.9	256.6
80°	78.3	133.4	189.9	179.8	184.1
82.5°	50.7	101.5	117.4	133.4	137.7
85°	29.0	59.4	72.5	78.3	81.2
87.5°	13.0	21.7	29.0	29.0	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)