

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: P310115

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-4000K**

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: P310115  
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-L82765-RDP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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**

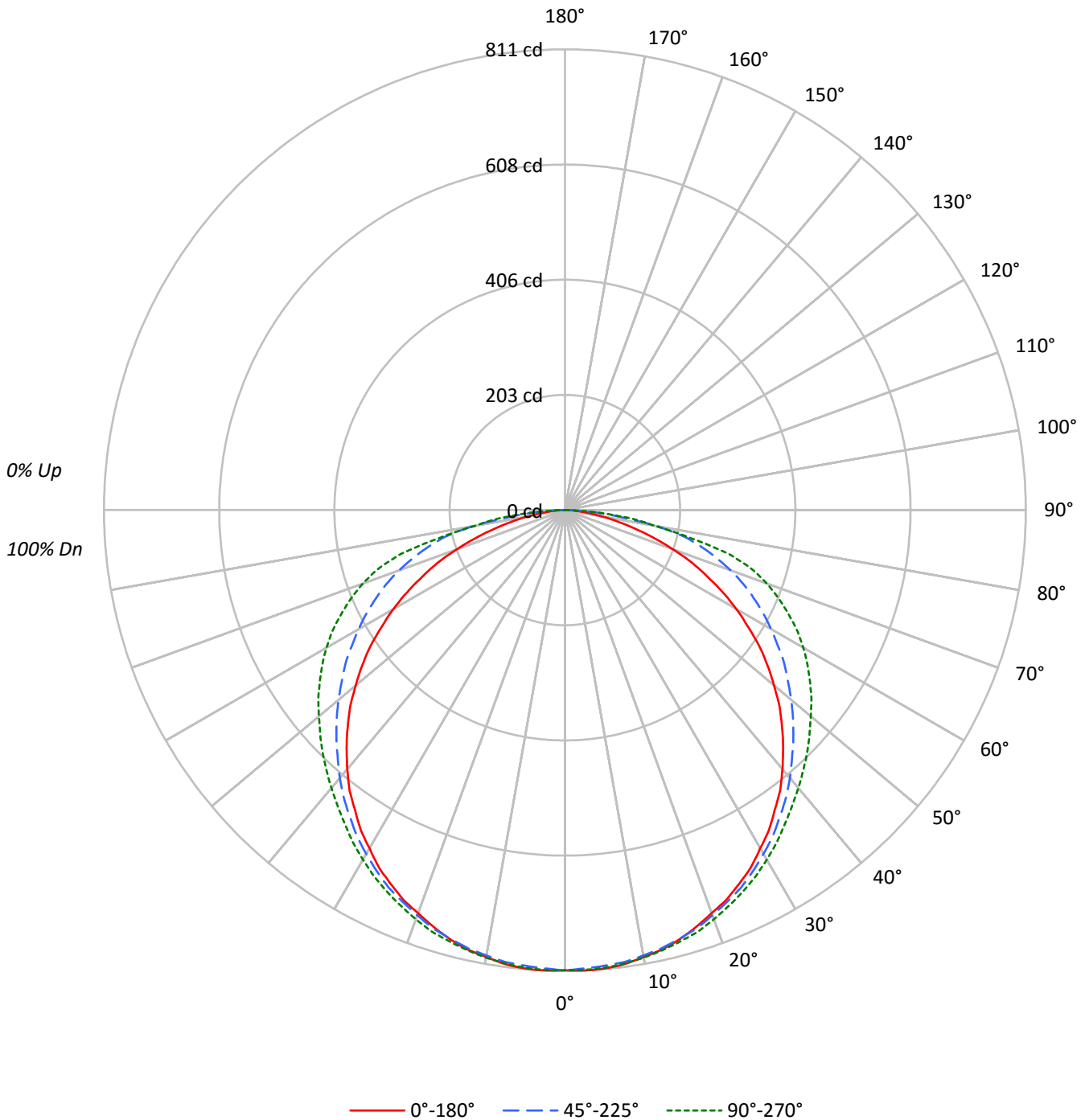
Lumens per Lamp: N/A  
Luminaire Lumens: 2576.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	67	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°	1090	1090	1090
5°	1094	1087	1092
10°	1091	1088	1093
15°	1089	1087	1095
20°	1081	1087	1098
25°	1077	1089	1100
30°	1068	1086	1104
35°	1058	1083	1108
40°	1046	1082	1122
45°	1028	1082	1148
50°	1006	1088	1182
55°	980	1106	1235
60°	939	1128	1303
65°	879	1167	1383
70°	799	1221	1488
75°	677	1289	1554
80°	535	1297	1258
85°	395	986	1105



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.8	3.0
10°-20°	221.2	8.6
20°-30°	338.2	13.1
30°-40°	413.4	16.0
40°-50°	440.6	17.1
50°-60°	421.3	16.4
60°-70°	356.9	13.9
70°-80°	239.9	9.3
80°-90°	67.7	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°	636.2	24.7
0°-40°	1049.6	40.7
0°-60°	1911.6	74.2
0°-90°	2576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2576.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	810	810	810	810	810	
5°	810	809	805	809	809	77
15°	782	782	781	787	786	220
25°	726	728	733	740	741	334
35°	644	649	659	672	675	403
45°	540	549	569	593	603	417
55°	418	433	472	508	526	372
65°	276	304	367	415	434	274
75°	130	178	248	290	299	140
85°	26	52	64	69	72	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	810.1	810.1	810.1	810.1	810.1
2.5°	811.4	811.4	807.5	810.1	810.1
5°	810.1	808.8	805.0	808.8	808.8
7.5°	806.2	805.0	802.4	806.2	805.0
10°	798.6	798.6	796.0	799.9	799.9
12.5°	792.2	790.9	789.6	794.7	793.5
15°	782.0	782.0	780.7	787.1	785.8
17.5°	769.2	770.5	771.7	776.9	778.1
20°	755.1	757.7	759.0	766.6	766.6
22.5°	742.4	743.6	746.2	753.9	753.9
25°	725.7	728.3	733.4	739.8	741.1
27.5°	709.1	710.4	716.8	725.7	727.0
30°	687.4	691.2	698.9	709.1	710.4
32.5°	668.3	672.1	681.0	691.2	693.8
35°	644.0	649.1	659.3	672.1	674.6
37.5°	622.3	626.1	638.9	652.9	656.8
40°	595.4	603.1	615.9	632.5	638.9
42.5°	568.6	576.3	591.6	613.3	621.0
45°	540.5	549.4	568.6	592.9	603.1
47.5°	512.4	522.6	544.3	572.4	583.9
50°	480.4	493.2	520.0	552.0	564.8
52.5°	449.8	465.1	494.5	530.3	546.9
55°	417.8	433.1	471.5	508.5	526.4
57.5°	382.0	402.5	444.6	486.8	506.0
60°	348.8	368.0	419.1	465.1	484.3
62.5°	313.0	338.6	393.5	442.1	461.3
65°	276.0	304.1	366.7	415.3	434.4
67.5°	242.8	273.4	339.9	388.4	407.6
70°	203.2	241.5	310.5	359.0	378.2
72.5°	166.1	208.3	279.8	327.1	345.0
75°	130.3	177.6	247.9	290.0	299.0
77.5°	97.1	146.9	214.7	232.5	226.2
80°	69.0	117.6	167.4	158.4	162.3
82.5°	44.7	89.4	103.5	117.6	121.4
85°	25.6	52.4	63.9	69.0	71.6
87.5°	11.5	19.2	25.6	25.6	24.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)