

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: P311295

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP250-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: P311295  
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: 24FCZ2-35HE-UNV-L82765-S-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 3187.0 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

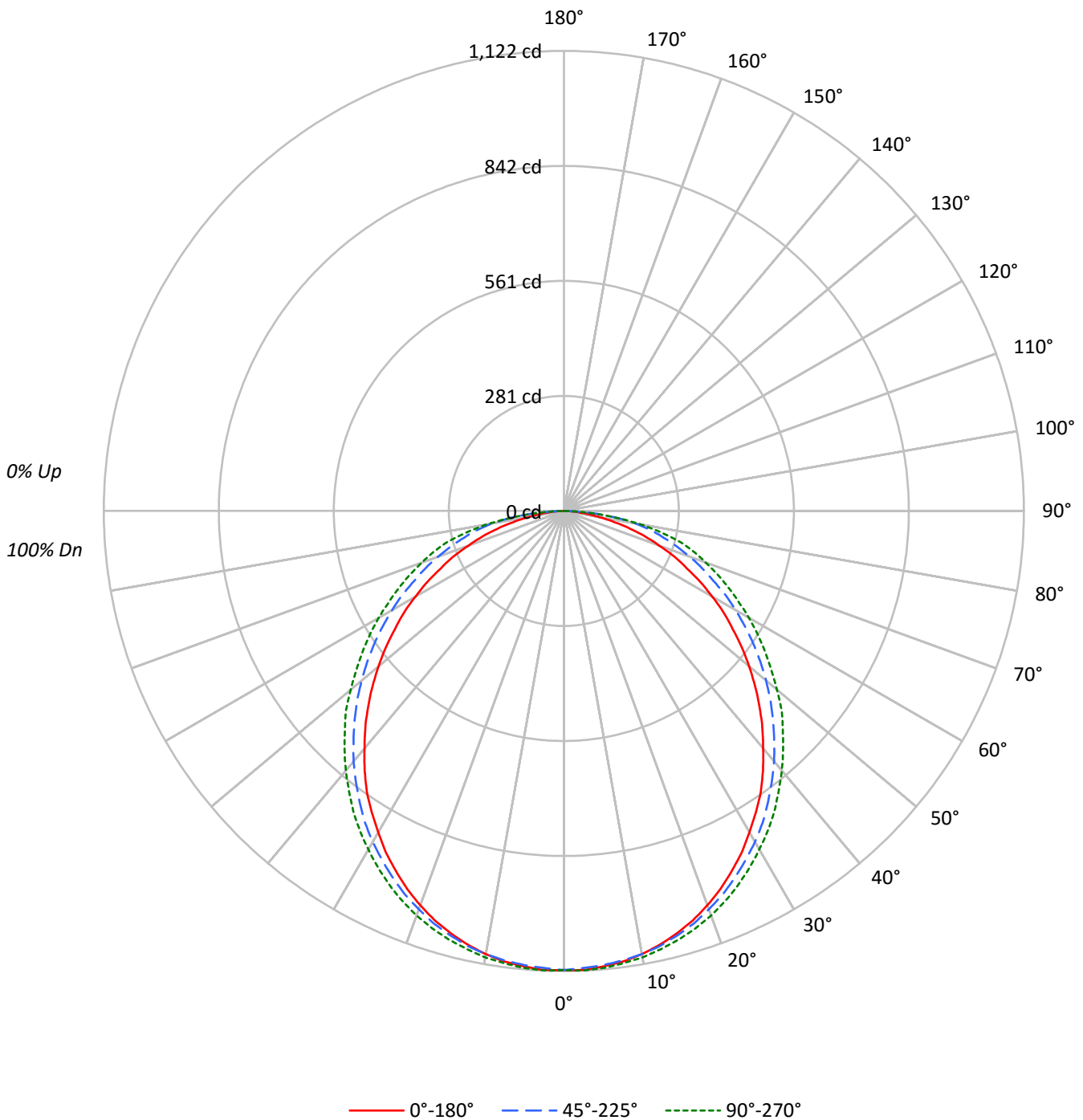
Input Watts (W): 26.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1506	1506	1506
5°	1505	1501	1511
10°	1499	1499	1510
15°	1485	1492	1507
20°	1465	1480	1503
25°	1438	1465	1494
30°	1406	1448	1482
35°	1375	1425	1470
40°	1328	1401	1453
45°	1285	1373	1437
50°	1235	1348	1420
55°	1180	1323	1406
60°	1125	1302	1403
65°	1054	1280	1412
70°	976	1286	1450
75°	873	1311	1531
80°	706	1389	1499
85°	531	1220	1187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.0	3.3
10°-20°	302.9	9.5
20°-30°	455.3	14.3
30°-40°	542.3	17.0
40°-50°	555.0	17.4
50°-60°	499.7	15.7
60°-70°	392.4	12.3
70°-80°	254.7	8.0
80°-90°	78.8	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°	864.1	27.1
0°-40°	1406.4	44.1
0°-60°	2461.1	77.2
0°-90°	3187.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3187.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1120	1120	1120	1120	1120	
5°	1115	1117	1112	1118	1119	106
15°	1066	1069	1071	1080	1082	301
25°	969	977	987	1003	1006	446
35°	837	847	868	889	895	522
45°	675	691	722	749	755	521
55°	503	525	564	593	599	451
65°	331	356	402	435	443	330
75°	168	200	252	286	295	178
85°	34	64	79	77	77	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1119.6	1119.6	1119.6	1119.6	1119.6
2.5°	1120.6	1120.6	1115.6	1120.6	1121.6
5°	1114.6	1116.6	1111.5	1117.6	1118.6
7.5°	1108.5	1108.5	1105.4	1111.5	1112.5
10°	1097.3	1098.4	1097.3	1104.4	1105.4
12.5°	1083.2	1085.2	1086.2	1093.3	1094.3
15°	1066.0	1069.0	1071.0	1080.1	1082.2
17.5°	1046.7	1049.8	1054.8	1064.9	1067.0
20°	1023.4	1027.5	1033.6	1046.7	1049.8
22.5°	998.1	1002.2	1012.3	1024.5	1029.5
25°	968.8	976.9	987.0	1003.2	1006.2
27.5°	939.4	946.5	959.7	976.9	980.9
30°	905.0	916.1	932.3	949.5	953.6
32.5°	871.6	882.7	902.0	920.2	925.3
35°	837.2	847.3	867.5	888.8	894.9
37.5°	797.7	810.9	833.1	854.4	860.5
40°	756.2	772.4	797.7	820.0	827.1
42.5°	716.7	733.9	759.2	783.5	791.6
45°	675.2	691.4	721.8	749.1	755.2
47.5°	632.7	650.9	683.3	710.6	720.8
50°	590.2	609.4	643.8	672.2	678.2
52.5°	547.7	567.9	604.3	634.7	637.8
55°	503.1	525.4	563.9	593.2	599.3
57.5°	462.6	481.9	523.4	553.7	560.8
60°	418.1	439.3	483.9	512.2	521.3
62.5°	375.6	397.8	444.4	472.7	480.8
65°	331.0	356.3	401.9	435.3	443.4
67.5°	292.6	316.9	365.4	397.8	405.9
70°	248.0	275.3	327.0	360.4	368.5
72.5°	209.5	237.9	289.5	321.9	334.1
75°	168.0	200.4	252.1	286.5	294.6
77.5°	127.6	165.0	217.6	244.0	244.0
80°	91.1	130.6	179.2	191.3	193.4
82.5°	59.7	98.2	132.6	131.6	131.6
85°	34.4	63.8	79.0	76.9	76.9
87.5°	13.2	26.3	28.3	28.3	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)