

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: P314220

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CA125-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: P314220  
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-L83050-S-CA125-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 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: 3183.0 lumens  
Efficiency: N/A  
Efficacy: 122.9 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

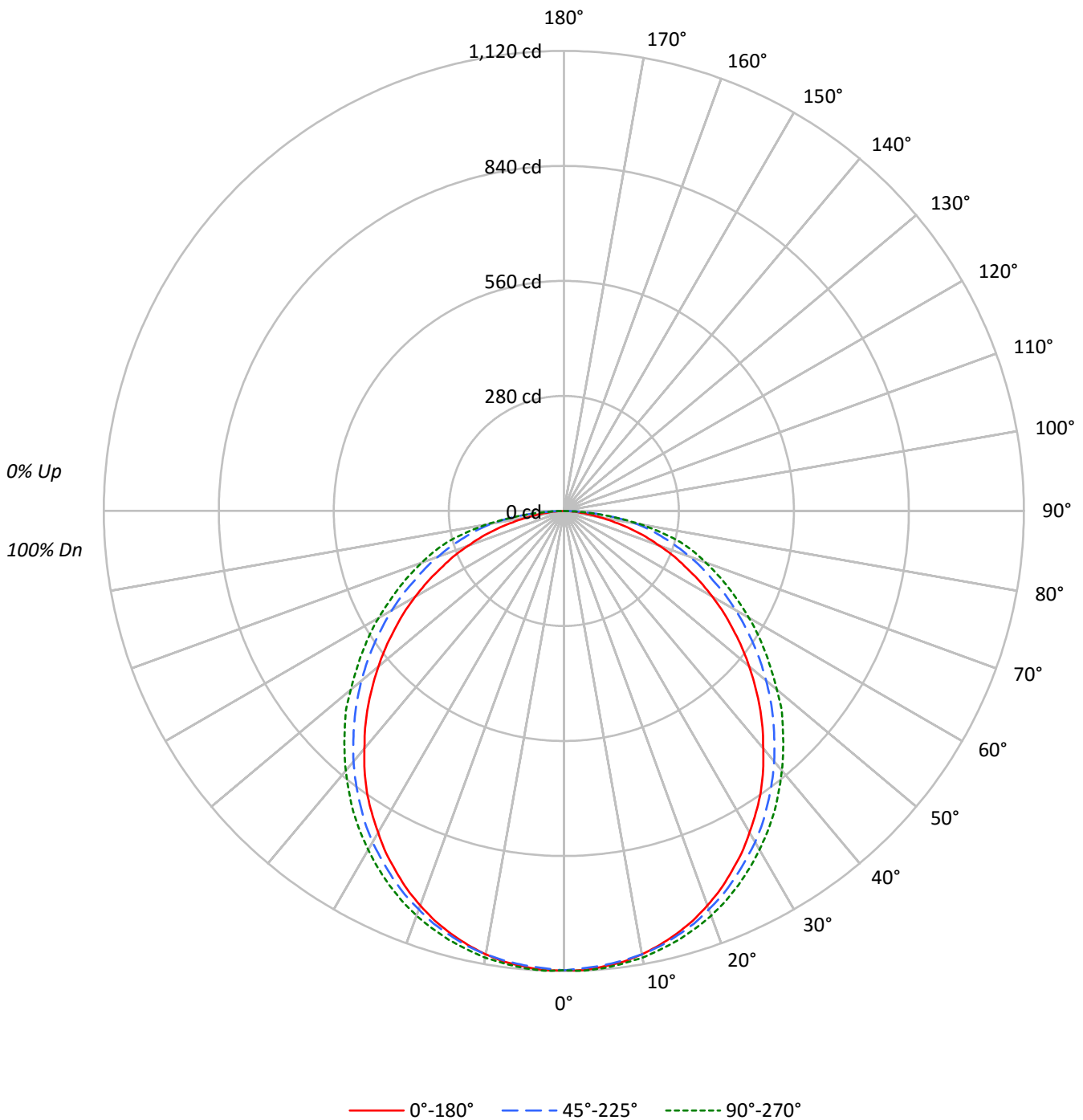
Input Watts (W): 25.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1505	1505	1505
5°	1504	1499	1509
10°	1497	1497	1508
15°	1483	1490	1506
20°	1464	1478	1501
25°	1436	1464	1492
30°	1404	1447	1480
35°	1373	1423	1468
40°	1326	1399	1451
45°	1283	1372	1435
50°	1234	1346	1418
55°	1179	1321	1404
60°	1124	1301	1401
65°	1053	1278	1410
70°	974	1285	1448
75°	872	1308	1529
80°	705	1387	1496
85°	531	1218	1186



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.9	3.3
10°-20°	302.5	9.5
20°-30°	454.7	14.3
30°-40°	541.6	17.0
40°-50°	554.3	17.4
50°-60°	499.1	15.7
60°-70°	391.9	12.3
70°-80°	254.4	8.0
80°-90°	78.7	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°	863.1	27.1
0°-40°	1404.7	44.1
0°-60°	2458.0	77.2
0°-90°	3183.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3183.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1118	1118	1118	1118	1118	
5°	1113	1115	1110	1116	1117	106
15°	1065	1068	1070	1079	1081	300
25°	968	976	986	1002	1005	446
35°	836	846	866	888	894	522
45°	674	690	721	748	754	520
55°	502	525	563	592	598	450
65°	331	356	401	435	443	329
75°	168	200	252	286	294	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°	1118.2	1118.2	1118.2	1118.2	1118.2
2.5°	1119.2	1119.2	1114.2	1119.2	1120.2
5°	1113.2	1115.2	1110.1	1116.2	1117.2
7.5°	1107.1	1107.1	1104.1	1110.1	1111.1
10°	1096.0	1097.0	1096.0	1103.0	1104.1
12.5°	1081.8	1083.8	1084.8	1091.9	1092.9
15°	1064.6	1067.7	1069.7	1078.8	1080.8
17.5°	1045.4	1048.4	1053.5	1063.6	1065.6
20°	1022.2	1026.2	1032.3	1045.4	1048.4
22.5°	996.9	1000.9	1011.0	1023.2	1028.2
25°	967.6	975.7	985.8	1001.9	1005.0
27.5°	938.2	945.3	958.5	975.7	979.7
30°	903.9	915.0	931.2	948.4	952.4
32.5°	870.5	881.6	900.8	919.0	924.1
35°	836.1	846.2	866.5	887.7	893.8
37.5°	796.7	809.8	832.1	853.3	859.4
40°	755.2	771.4	796.7	818.9	826.0
42.5°	715.8	733.0	758.3	782.5	790.6
45°	674.4	690.5	720.9	748.2	754.2
47.5°	631.9	650.1	682.5	709.7	719.9
50°	589.4	608.6	643.0	671.3	677.4
52.5°	547.0	567.2	603.6	633.9	637.0
55°	502.5	524.7	563.1	592.5	598.5
57.5°	462.0	481.3	522.7	553.0	560.1
60°	417.6	438.8	483.3	511.6	520.7
62.5°	375.1	397.3	443.8	472.2	480.2
65°	330.6	355.9	401.4	434.7	442.8
67.5°	292.2	316.5	365.0	397.3	405.4
70°	247.7	275.0	326.6	359.9	368.0
72.5°	209.3	237.6	289.2	321.5	333.6
75°	167.8	200.2	251.7	286.1	294.2
77.5°	127.4	164.8	217.4	243.7	243.7
80°	91.0	130.4	179.0	191.1	193.1
82.5°	59.7	98.1	132.4	131.4	131.4
85°	34.4	63.7	78.9	76.8	76.8
87.5°	13.1	26.3	28.3	28.3	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)