

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: P314261

Luminaire Tested: **24FCZ2-35-UNV-L83050-S-CP250-W2A-U-3500K**

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: P314261  
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: 24FCZ2-35-UNV-L83050-S-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 3500K 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**

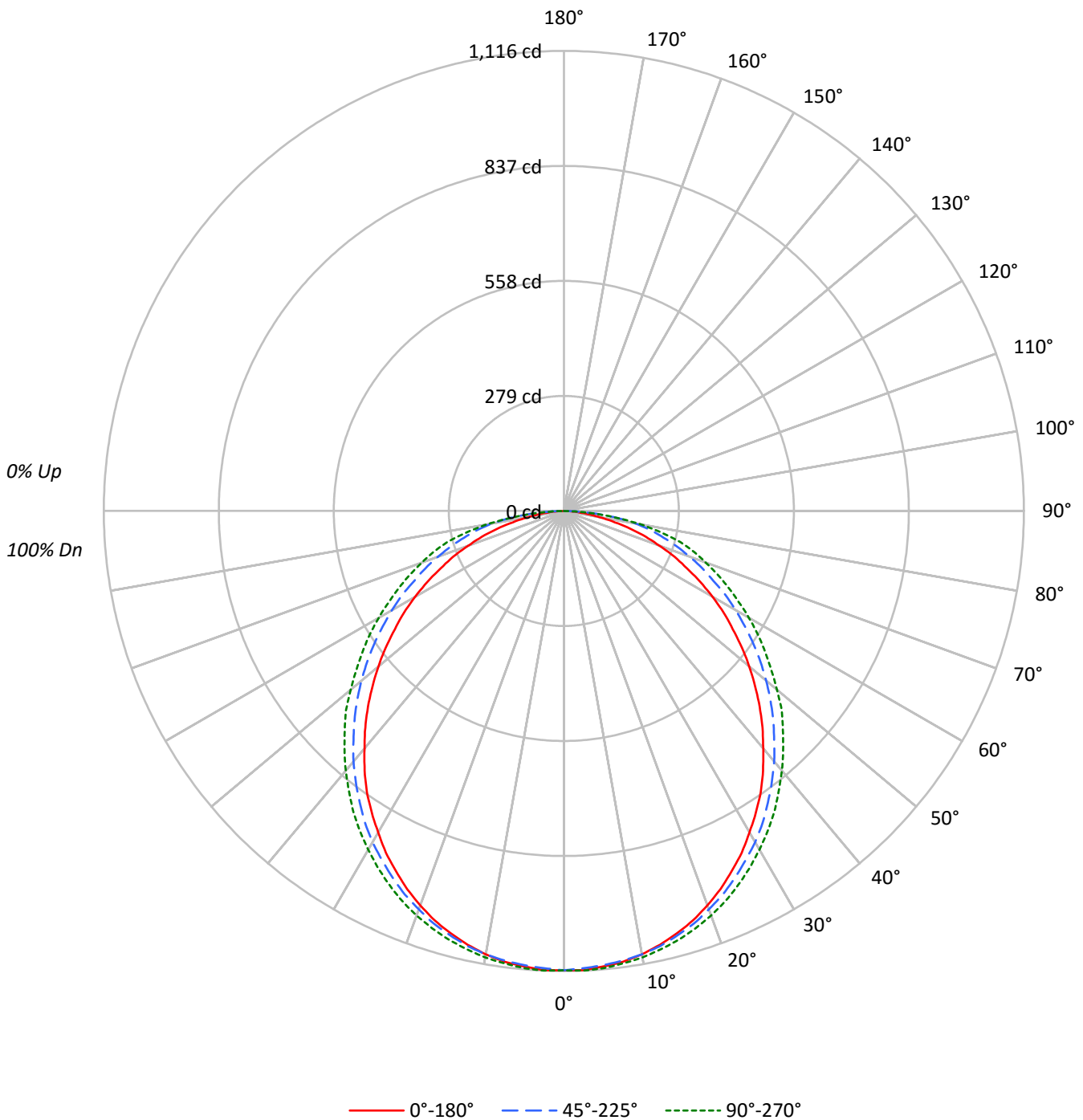
Lumens per Lamp: N/A  
Luminaire Lumens: 3171.0 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1499	1499	1499
5°	1498	1494	1503
10°	1492	1492	1503
15°	1477	1484	1500
20°	1458	1473	1496
25°	1431	1458	1486
30°	1399	1441	1474
35°	1368	1418	1463
40°	1322	1394	1445
45°	1278	1367	1430
50°	1229	1341	1412
55°	1174	1316	1399
60°	1119	1296	1396
65°	1049	1273	1405
70°	971	1280	1442
75°	869	1304	1524
80°	703	1382	1491
85°	528	1213	1181



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.5	3.3
10°-20°	301.3	9.5
20°-30°	453.0	14.3
30°-40°	539.6	17.0
40°-50°	552.2	17.4
50°-60°	497.2	15.7
60°-70°	390.4	12.3
70°-80°	253.4	8.0
80°-90°	78.4	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°	859.8	27.1
0°-40°	1399.4	44.1
0°-60°	2448.8	77.2
0°-90°	3171.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3171.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1109	1111	1106	1112	1113	105
15°	1061	1064	1066	1075	1077	299
25°	964	972	982	998	1001	444
35°	833	843	863	884	890	520
45°	672	688	718	745	751	518
55°	501	523	561	590	596	449
65°	329	354	400	433	441	328
75°	167	199	251	285	293	177
85°	34	64	79	76	76	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1114.0	1114.0	1114.0	1114.0	<i>1114.0</i>
2.5°	<i>1115.0</i>	<i>1115.0</i>	<i>1110.0</i>	<i>1115.0</i>	<i>1116.0</i>
5°	1109.0	1111.0	1105.9	1112.0	<i>1113.0</i>
7.5°	1102.9	1102.9	1099.9	1105.9	<i>1106.9</i>
10°	1091.8	1092.8	1091.8	1098.9	<i>1099.9</i>
12.5°	1077.7	1079.7	1080.8	1087.8	<i>1088.8</i>
15°	1060.6	1063.6	1065.6	1074.7	<i>1076.7</i>
17.5°	1041.5	1044.5	1049.5	1059.6	<i>1061.6</i>
20°	1018.3	1022.3	1028.4	1041.5	<i>1044.5</i>
22.5°	993.1	997.2	1007.2	1019.3	<i>1024.3</i>
25°	963.9	972.0	982.0	998.2	<i>1001.2</i>
27.5°	934.7	941.8	954.9	972.0	<i>976.0</i>
30°	900.5	911.5	927.7	944.8	<i>948.8</i>
32.5°	867.2	878.3	897.4	915.6	<i>920.6</i>
35°	833.0	843.0	863.2	884.3	<i>890.4</i>
37.5°	793.7	806.8	828.9	850.1	<i>856.1</i>
40°	752.4	768.5	793.7	815.9	<i>822.9</i>
42.5°	713.1	730.2	755.4	779.6	<i>787.7</i>
45°	671.8	687.9	718.2	745.3	<i>751.4</i>
47.5°	629.5	647.6	679.9	707.1	<i>717.1</i>
50°	587.2	606.4	640.6	668.8	<i>674.8</i>
52.5°	544.9	565.1	601.3	631.5	<i>634.6</i>
55°	500.6	522.8	561.0	590.2	<i>596.3</i>
57.5°	460.3	479.4	520.7	551.0	<i>558.0</i>
60°	416.0	437.1	481.5	509.7	<i>518.7</i>
62.5°	373.7	395.8	442.2	470.4	<i>478.4</i>
65°	329.4	354.5	399.9	433.1	<i>441.2</i>
67.5°	291.1	315.3	363.6	395.8	<i>403.9</i>
70°	246.8	274.0	325.3	358.6	<i>366.6</i>
72.5°	208.5	236.7	288.1	320.3	<i>332.4</i>
75°	167.2	199.4	250.8	285.0	<i>293.1</i>
77.5°	126.9	164.2	216.6	242.7	<i>242.7</i>
80°	90.7	129.9	178.3	190.4	<i>192.4</i>
82.5°	59.4	97.7	131.9	130.9	<i>130.9</i>
85°	34.2	63.5	78.6	76.5	<i>76.5</i>
87.5°	13.1	26.2	28.2	28.2	<i>27.2</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)