

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: P314221

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CA125-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: P314221  
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-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 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: 3369.0 lumens  
Efficiency: N/A  
Efficacy: 129.6 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

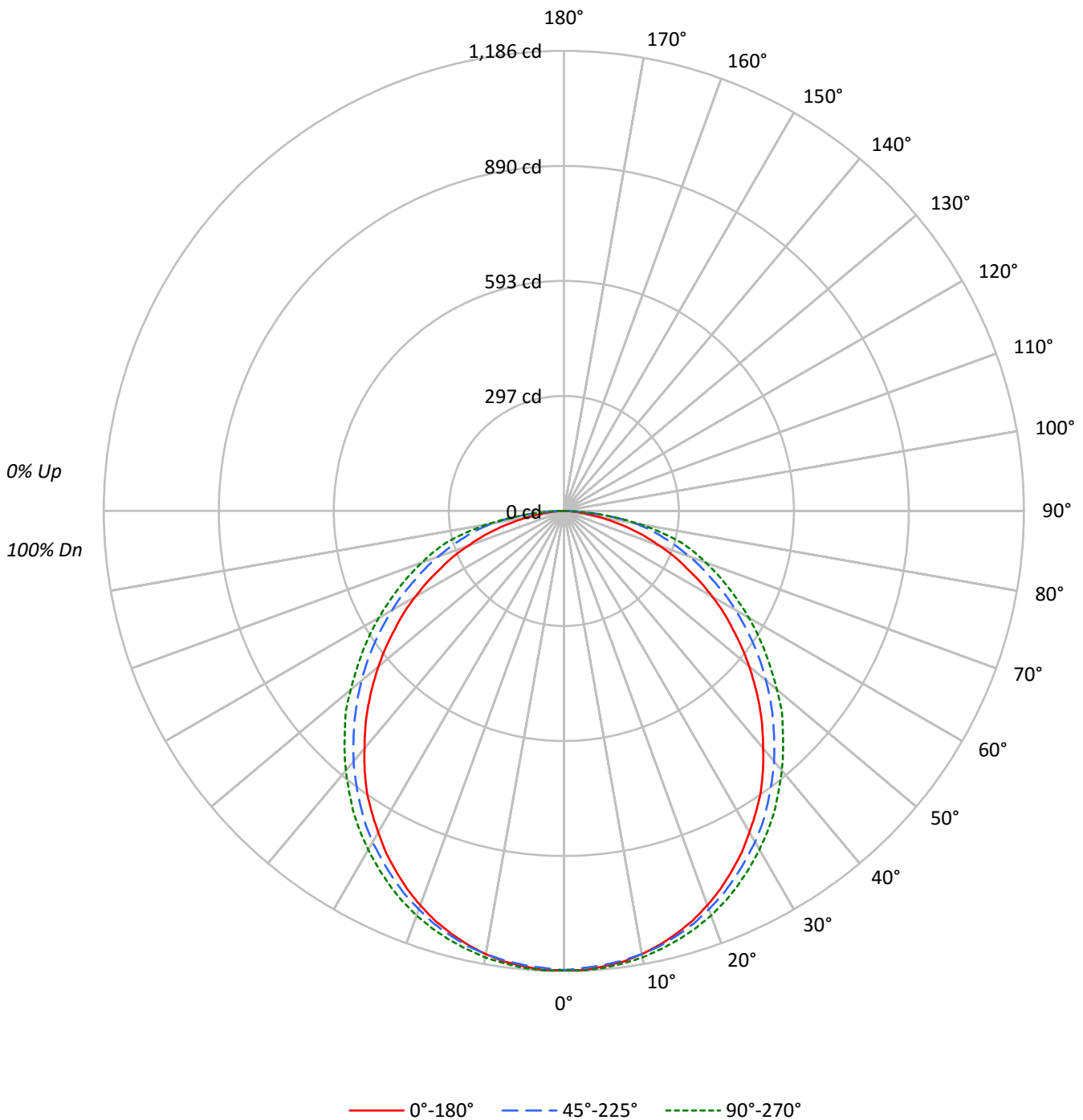
Input Watts (W): 26  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1593	1593	1593
5°	1591	1587	1597
10°	1585	1585	1597
15°	1570	1577	1594
20°	1549	1564	1589
25°	1520	1549	1579
30°	1486	1531	1566
35°	1454	1506	1554
40°	1404	1481	1536
45°	1358	1452	1519
50°	1306	1425	1501
55°	1247	1398	1486
60°	1189	1376	1483
65°	1114	1352	1492
70°	1031	1360	1532
75°	923	1385	1619
80°	746	1468	1584
85°	562	1289	1255



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.0	3.3
10°-20°	320.2	9.5
20°-30°	481.3	14.3
30°-40°	573.3	17.0
40°-50°	586.7	17.4
50°-60°	528.2	15.7
60°-70°	414.8	12.3
70°-80°	269.2	8.0
80°-90°	83.3	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°	913.5	27.1
0°-40°	1486.8	44.1
0°-60°	2601.7	77.2
0°-90°	3369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3369.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1184	1184	1184	1184	1184	
5°	1178	1180	1175	1181	1182	112
15°	1127	1130	1132	1142	1144	318
25°	1024	1033	1043	1060	1064	472
35°	885	896	917	940	946	552
45°	714	731	763	792	798	550
55°	532	555	596	627	634	477
65°	350	377	425	460	469	348
75°	178	212	266	303	311	188
85°	36	67	84	81	81	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1183.6	1183.6	1183.6	1183.6	<i>1183.6</i>
2.5°	<i>1184.6</i>	<i>1184.6</i>	<i>1179.3</i>	<i>1184.6</i>	<i>1185.7</i>
5°	1178.2	1180.3	1175.0	1181.4	<i>1182.5</i>
7.5°	1171.8	1171.8	1168.6	1175.0	<i>1176.1</i>
10°	1160.0	1161.1	1160.0	1167.5	<i>1168.6</i>
12.5°	1145.0	1147.2	1148.2	1155.7	<i>1156.8</i>
15°	1126.8	1130.0	1132.2	1141.8	<i>1144.0</i>
17.5°	1106.5	1109.7	1115.1	1125.8	<i>1127.9</i>
20°	1081.9	1086.2	1092.6	1106.5	<i>1109.7</i>
22.5°	1055.1	1059.4	1070.1	1083.0	<i>1088.3</i>
25°	1024.1	1032.7	1043.4	1060.5	<i>1063.7</i>
27.5°	993.1	1000.6	1014.5	1032.7	<i>1036.9</i>
30°	956.7	968.5	985.6	1003.8	<i>1008.1</i>
32.5°	921.4	933.1	953.5	972.7	<i>978.1</i>
35°	885.0	895.7	917.1	939.6	<i>946.0</i>
37.5°	843.3	857.2	880.7	903.2	<i>909.6</i>
40°	799.4	816.5	843.3	866.8	<i>874.3</i>
42.5°	757.6	775.8	802.6	828.3	<i>836.8</i>
45°	713.8	730.9	763.0	791.9	<i>798.3</i>
47.5°	668.8	688.1	722.3	751.2	<i>761.9</i>
50°	623.9	644.2	680.6	710.6	<i>717.0</i>
52.5°	578.9	600.3	638.9	671.0	<i>674.2</i>
55°	531.8	555.4	596.1	627.1	<i>633.5</i>
57.5°	489.0	509.4	553.3	585.4	<i>592.8</i>
60°	442.0	464.4	511.5	541.5	<i>551.1</i>
62.5°	397.0	420.6	469.8	499.7	<i>508.3</i>
65°	349.9	376.7	424.8	460.2	<i>468.7</i>
67.5°	309.3	334.9	386.3	420.6	<i>429.1</i>
70°	262.2	291.1	345.6	381.0	<i>389.5</i>
72.5°	221.5	251.5	306.1	340.3	<i>353.1</i>
75°	177.6	211.9	266.5	302.8	<i>311.4</i>
77.5°	134.8	174.4	230.1	257.9	<i>257.9</i>
80°	96.3	138.0	189.4	202.3	<i>204.4</i>
82.5°	63.1	103.8	140.2	139.1	<i>139.1</i>
85°	36.4	67.4	83.5	81.3	<i>81.3</i>
87.5°	13.9	27.8	30.0	30.0	<i>28.9</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)