

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: P311261

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CA08-W2A-U-5500K**

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: P311261  
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-CA08-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5500K 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: 3515.0 lumens  
Efficiency: N/A  
Efficacy: 131.6 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

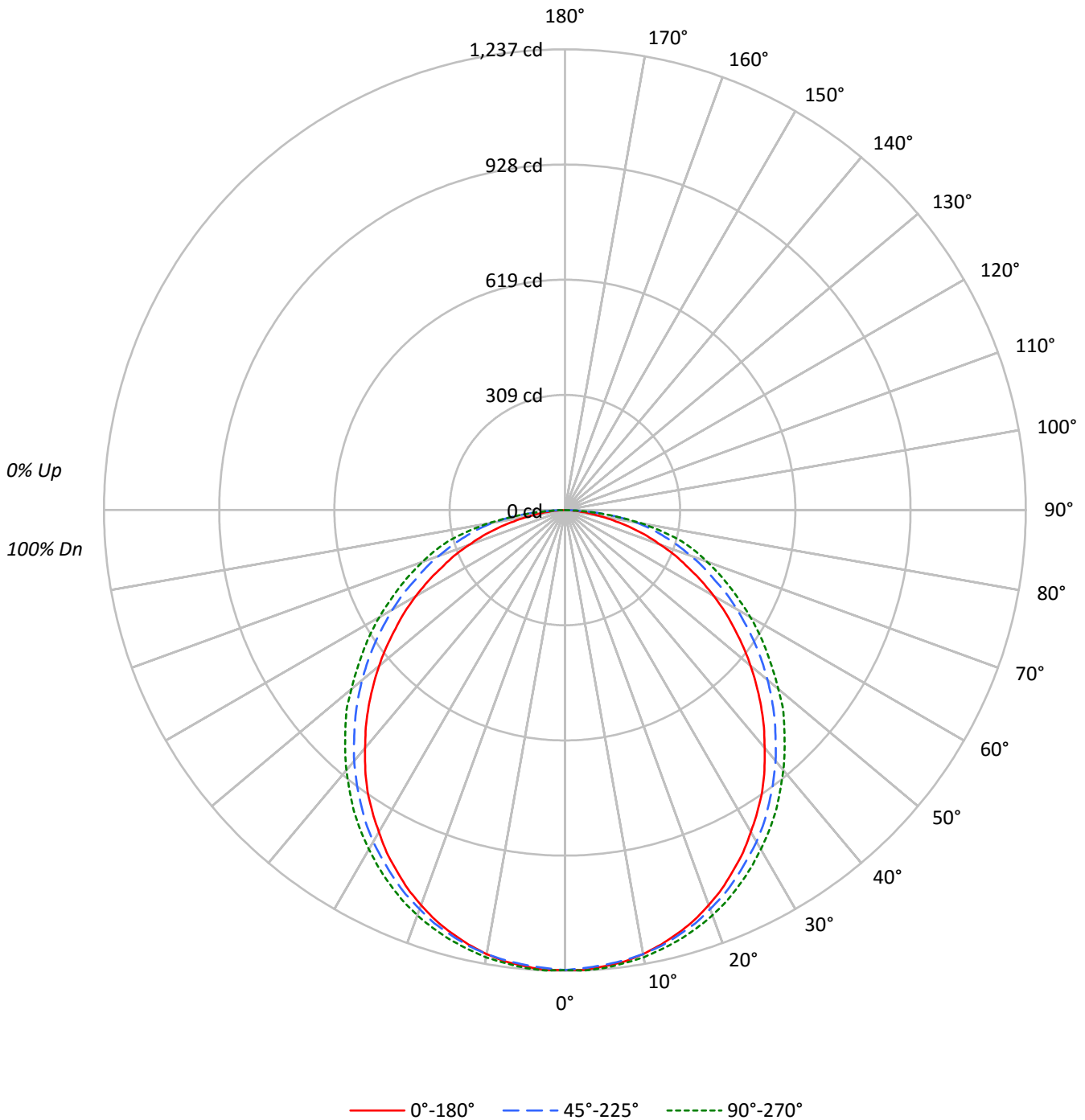
Input Watts (W): 26.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1661	1661	1661
5°	1660	1656	1666
10°	1654	1654	1666
15°	1638	1645	1662
20°	1616	1632	1658
25°	1586	1616	1648
30°	1551	1598	1634
35°	1517	1572	1621
40°	1465	1545	1602
45°	1417	1515	1585
50°	1362	1486	1566
55°	1302	1459	1551
60°	1241	1436	1547
65°	1162	1411	1557
70°	1076	1419	1599
75°	963	1445	1689
80°	779	1531	1653
85°	587	1345	1311



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.9	3.3
10°-20°	334.0	9.5
20°-30°	502.1	14.3
30°-40°	598.1	17.0
40°-50°	612.2	17.4
50°-60°	551.1	15.7
60°-70°	432.8	12.3
70°-80°	280.9	8.0
80°-90°	86.9	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°	953.1	27.1
0°-40°	1551.2	44.1
0°-60°	2714.4	77.2
0°-90°	3515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3515.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1229	1232	1226	1233	1234	117
15°	1176	1179	1181	1191	1194	332
25°	1068	1077	1089	1106	1110	492
35°	923	934	957	980	987	576
45°	745	763	796	826	833	574
55°	555	580	622	654	661	497
65°	365	393	443	480	489	363
75°	185	221	278	316	325	196
85°	38	70	87	85	85	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1234.8	1234.8	1234.8	1234.8	1234.8
2.5°	1236.0	1236.0	1230.4	1236.0	1237.1
5°	1229.3	1231.5	1225.9	1232.6	1233.7
7.5°	1222.6	1222.6	1219.2	1225.9	1227.0
10°	1210.3	1211.4	1210.3	1218.1	1219.2
12.5°	1194.6	1196.9	1198.0	1205.8	1206.9
15°	1175.7	1179.0	1181.3	1191.3	1193.5
17.5°	1154.5	1157.8	1163.4	1174.6	1176.8
20°	1128.8	1133.2	1139.9	1154.5	1157.8
22.5°	1100.9	1105.3	1116.5	1129.9	1135.5
25°	1068.5	1077.4	1088.6	1106.4	1109.8
27.5°	1036.1	1043.9	1058.4	1077.4	1081.9
30°	998.1	1010.4	1028.3	1047.3	1051.7
32.5°	961.3	973.6	994.8	1014.9	1020.5
35°	923.3	934.5	956.8	980.3	987.0
37.5°	879.8	894.3	918.9	942.3	949.0
40°	834.0	851.9	879.8	904.4	912.2
42.5°	790.5	809.5	837.4	864.2	873.1
45°	744.7	762.6	796.1	826.2	832.9
47.5°	697.8	717.9	753.6	783.8	794.9
50°	650.9	672.1	710.1	741.4	748.1
52.5°	604.0	626.4	666.5	700.0	703.4
55°	554.9	579.5	621.9	654.3	661.0
57.5°	510.2	531.5	577.2	610.7	618.5
60°	461.1	484.6	533.7	564.9	575.0
62.5°	414.2	438.8	490.1	521.4	530.3
65°	365.1	393.0	443.2	480.1	489.0
67.5°	322.7	349.5	403.1	438.8	447.7
70°	273.5	303.7	360.6	397.5	406.4
72.5°	231.1	262.4	319.3	355.0	368.4
75°	185.3	221.1	278.0	316.0	324.9
77.5°	140.7	182.0	240.0	269.1	269.1
80°	100.5	144.0	197.6	211.0	213.3
82.5°	65.9	108.3	146.3	145.1	145.1
85°	38.0	70.3	87.1	84.9	84.9
87.5°	14.5	29.0	31.3	31.3	30.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)