

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: P311302

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA08-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: P311302  
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-L82765-S-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 3337.0 lumens  
Efficiency: N/A  
Efficacy: 118.8 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

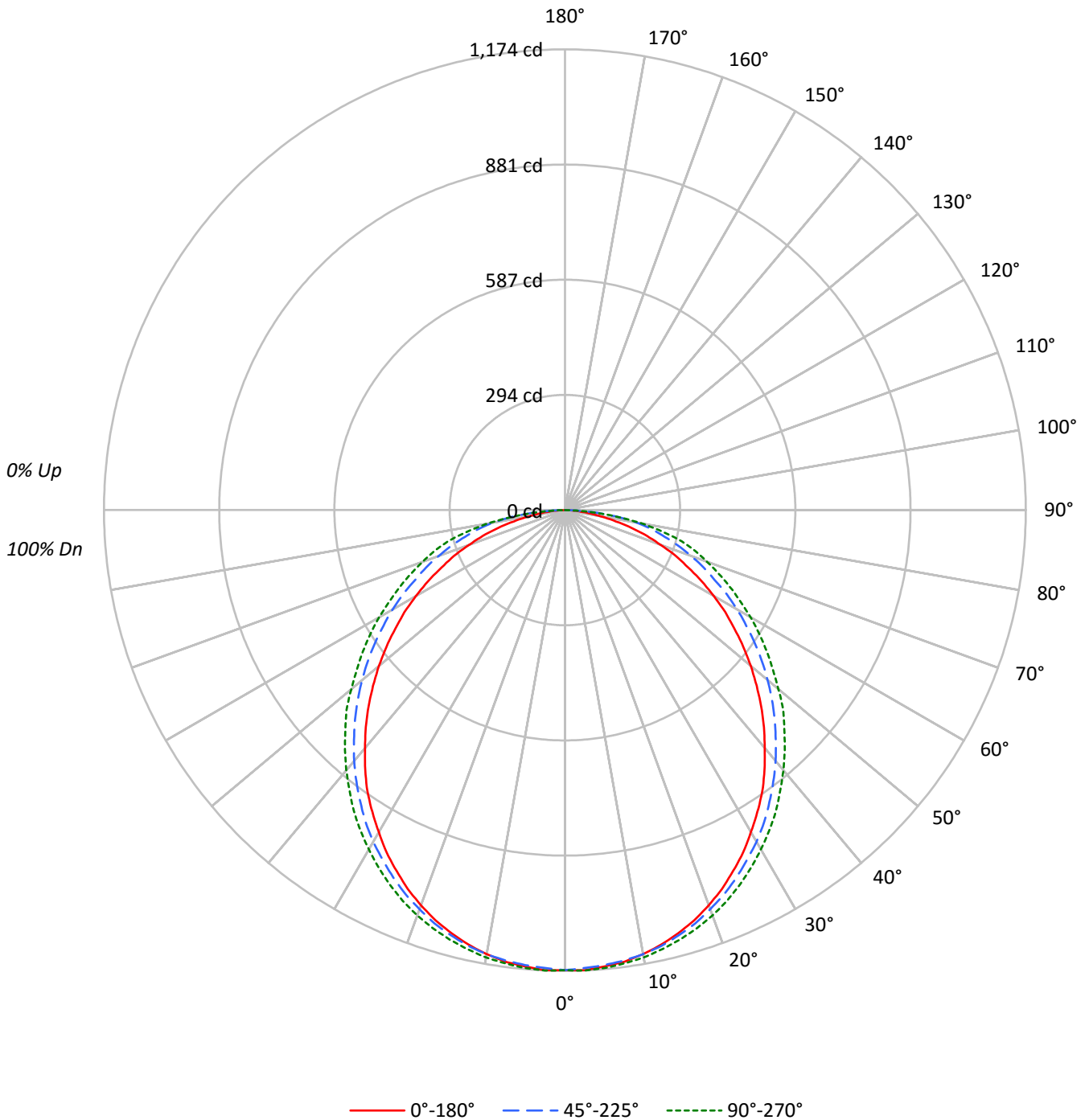
Input Watts (W): 28.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1577	1577	1577
5°	1576	1572	1582
10°	1570	1570	1581
15°	1555	1562	1578
20°	1534	1550	1574
25°	1506	1534	1564
30°	1472	1517	1551
35°	1440	1492	1539
40°	1391	1467	1521
45°	1345	1438	1505
50°	1294	1411	1487
55°	1236	1385	1472
60°	1178	1364	1469
65°	1103	1340	1478
70°	1022	1347	1518
75°	915	1372	1603
80°	739	1454	1569
85°	556	1277	1244



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.0	3.3
10°-20°	317.1	9.5
20°-30°	476.7	14.3
30°-40°	567.8	17.0
40°-50°	581.1	17.4
50°-60°	523.2	15.7
60°-70°	410.9	12.3
70°-80°	266.7	8.0
80°-90°	82.5	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°	904.8	27.1
0°-40°	1472.6	44.1
0°-60°	2577.0	77.2
0°-90°	3337.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3337.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1172	1172	1172	1172	1172	
5°	1167	1169	1164	1170	1171	111
15°	1116	1119	1121	1131	1133	315
25°	1014	1023	1034	1050	1054	467
35°	877	887	908	931	937	547
45°	707	724	756	784	791	545
55°	527	550	590	621	628	472
65°	347	373	421	456	464	345
75°	176	210	264	300	308	186
85°	36	67	83	81	81	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1172.3	1172.3	1172.3	1172.3	1172.3
2.5°	1173.4	1173.4	1168.1	1173.4	1174.4
5°	1167.0	1169.1	1163.8	1170.2	1171.2
7.5°	1160.7	1160.7	1157.5	1163.8	1164.9
10°	1149.0	1150.1	1149.0	1156.4	1157.5
12.5°	1134.2	1136.3	1137.3	1144.8	1145.8
15°	1116.1	1119.3	1121.4	1131.0	1133.1
17.5°	1096.0	1099.2	1104.5	1115.1	1117.2
20°	1071.6	1075.9	1082.2	1096.0	1099.2
22.5°	1045.1	1049.4	1060.0	1072.7	1078.0
25°	1014.4	1022.9	1033.5	1050.4	1053.6
27.5°	983.6	991.1	1004.8	1022.9	1027.1
30°	947.6	959.3	976.2	994.2	998.5
32.5°	912.6	924.3	944.4	963.5	968.8
35°	876.6	887.2	908.4	930.6	937.0
37.5°	835.2	849.0	872.3	894.6	901.0
40°	791.8	808.7	835.2	858.6	866.0
42.5°	750.4	768.5	795.0	820.4	828.9
45°	707.0	723.9	755.7	784.4	790.7
47.5°	662.5	681.6	715.5	744.1	754.7
50°	618.0	638.1	674.1	703.8	710.2
52.5°	573.4	594.6	632.8	664.6	667.8
55°	526.8	550.1	590.4	621.1	627.5
57.5°	484.4	504.5	548.0	579.8	587.2
60°	437.8	460.0	506.7	536.3	545.9
62.5°	393.2	416.6	465.3	495.0	503.5
65°	346.6	373.1	420.8	455.8	464.3
67.5°	306.3	331.8	382.6	416.6	425.0
70°	259.7	288.3	342.4	377.3	385.8
72.5°	219.4	249.1	303.1	337.1	349.8
75°	176.0	209.9	263.9	300.0	308.4
77.5°	133.6	172.8	227.9	255.4	255.4
80°	95.4	136.7	187.6	200.3	202.5
82.5°	62.5	102.8	138.9	137.8	137.8
85°	36.0	66.8	82.7	80.6	80.6
87.5°	13.8	27.6	29.7	29.7	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)