

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: P311313

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CA125-W2A-U-4500K**

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: P311313  
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-CA125-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (168) 4500K 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**

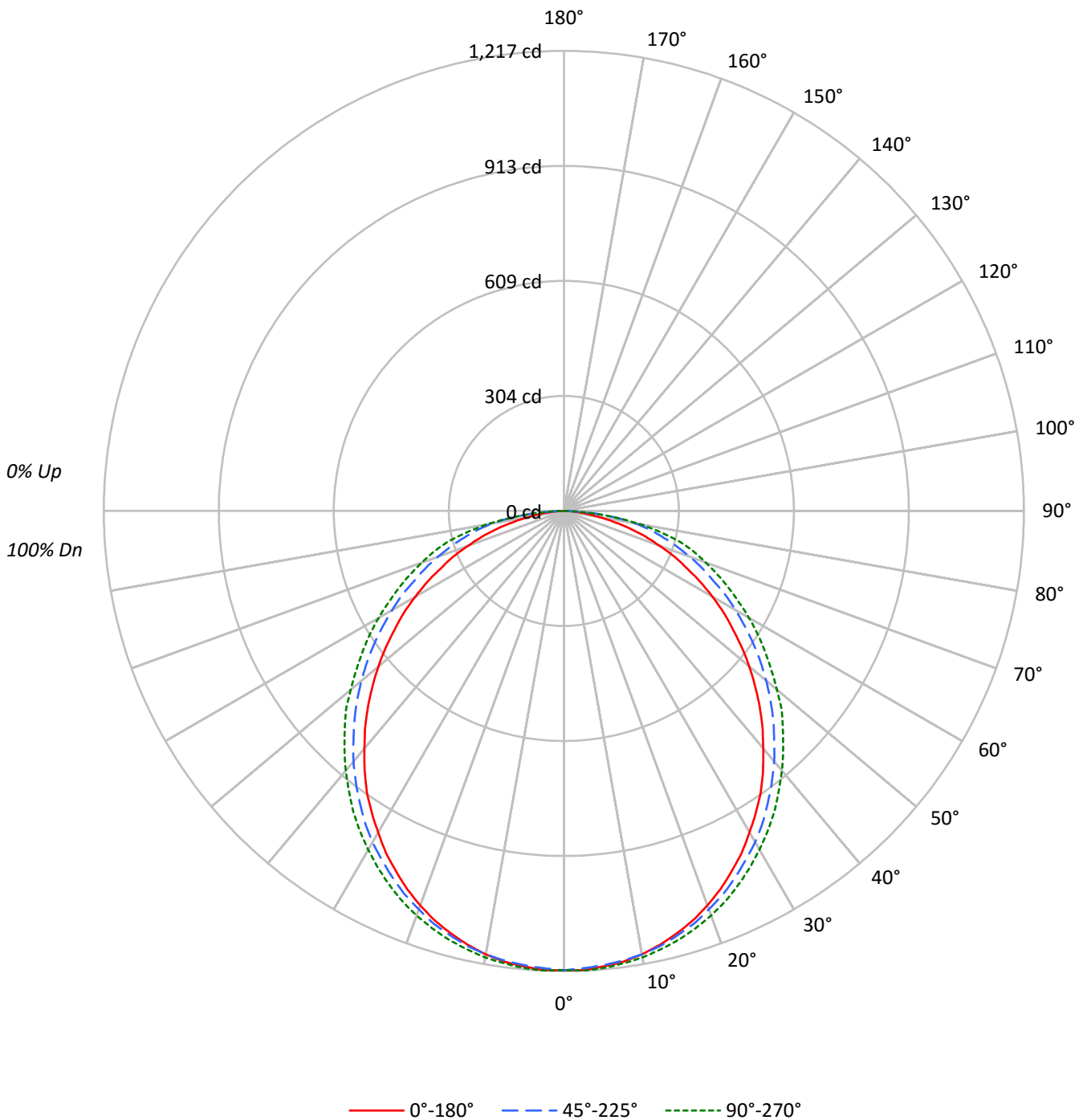
Lumens per Lamp: N/A  
Luminaire Lumens: 3458.0 lumens  
Efficiency: N/A  
Efficacy: 121.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1635	1635	1635
5°	1633	1629	1639
10°	1627	1627	1639
15°	1611	1619	1636
20°	1590	1606	1631
25°	1561	1590	1621
30°	1526	1572	1608
35°	1492	1546	1595
40°	1441	1520	1576
45°	1394	1490	1559
50°	1340	1462	1540
55°	1281	1435	1525
60°	1221	1413	1522
65°	1144	1388	1532
70°	1059	1396	1573
75°	948	1422	1661
80°	766	1506	1626
85°	576	1323	1289



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.0	3.3
10°-20°	328.6	9.5
20°-30°	494.0	14.3
30°-40°	588.4	17.0
40°-50°	602.2	17.4
50°-60°	542.2	15.7
60°-70°	425.8	12.3
70°-80°	276.3	8.0
80°-90°	85.5	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°	937.6	27.1
0°-40°	1526.0	44.1
0°-60°	2670.4	77.2
0°-90°	3458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3458.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1215	1215	1215	1215	1215	
5°	1209	1212	1206	1213	1214	115
15°	1157	1160	1162	1172	1174	326
25°	1051	1060	1071	1088	1092	484
35°	908	919	941	964	971	567
45°	733	750	783	813	819	565
55°	546	570	612	644	650	489
65°	359	387	436	472	481	358
75°	182	218	274	311	320	193
85°	37	69	86	84	84	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1214.8	1214.8	1214.8	1214.8	1214.8
2.5°	1215.9	1215.9	1210.4	1215.9	1217.0
5°	1209.3	1211.5	1206.0	1212.6	1213.7
7.5°	1202.7	1202.7	1199.4	1206.0	1207.1
10°	1190.7	1191.8	1190.7	1198.3	1199.4
12.5°	1175.3	1177.5	1178.6	1186.3	1187.4
15°	1156.6	1159.9	1162.1	1172.0	1174.2
17.5°	1135.7	1139.0	1144.5	1155.5	1157.7
20°	1110.5	1114.9	1121.5	1135.7	1139.0
22.5°	1083.0	1087.4	1098.4	1111.6	1117.1
25°	1051.2	1059.9	1070.9	1088.5	1091.8
27.5°	1019.3	1027.0	1041.3	1059.9	1064.3
30°	982.0	994.0	1011.6	1030.3	1034.7
32.5°	945.7	957.8	978.7	998.4	1003.9
35°	908.4	919.4	941.3	964.4	971.0
37.5°	865.5	879.8	904.0	927.0	933.6
40°	820.5	838.1	865.5	889.7	897.4
42.5°	777.7	796.3	823.8	850.2	858.9
45°	732.6	750.2	783.2	812.8	819.4
47.5°	686.5	706.3	741.4	771.1	782.1
50°	640.4	661.2	698.6	729.3	735.9
52.5°	594.2	616.2	655.7	688.7	692.0
55°	545.9	570.1	611.8	643.7	650.2
57.5°	502.0	522.8	567.9	600.8	608.5
60°	453.6	476.7	525.0	555.8	565.7
62.5°	407.5	431.7	482.2	512.9	521.7
65°	359.2	386.6	436.1	472.3	481.1
67.5°	317.4	343.8	396.5	431.7	440.5
70°	269.1	298.8	354.8	391.0	399.8
72.5°	227.4	258.1	314.1	349.3	362.5
75°	182.3	217.5	273.5	310.8	319.6
77.5°	138.4	179.0	236.2	264.7	264.7
80°	98.9	141.7	194.4	207.6	209.8
82.5°	64.8	106.5	143.9	142.8	142.8
85°	37.3	69.2	85.7	83.5	83.5
87.5°	14.3	28.6	30.8	30.8	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)