

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: P311581

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P311581  
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: 24FCZ2-50-UNV-L82765-S-CA125-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 4676.0 lumens  
Efficiency: N/A  
Efficacy: 109.0 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

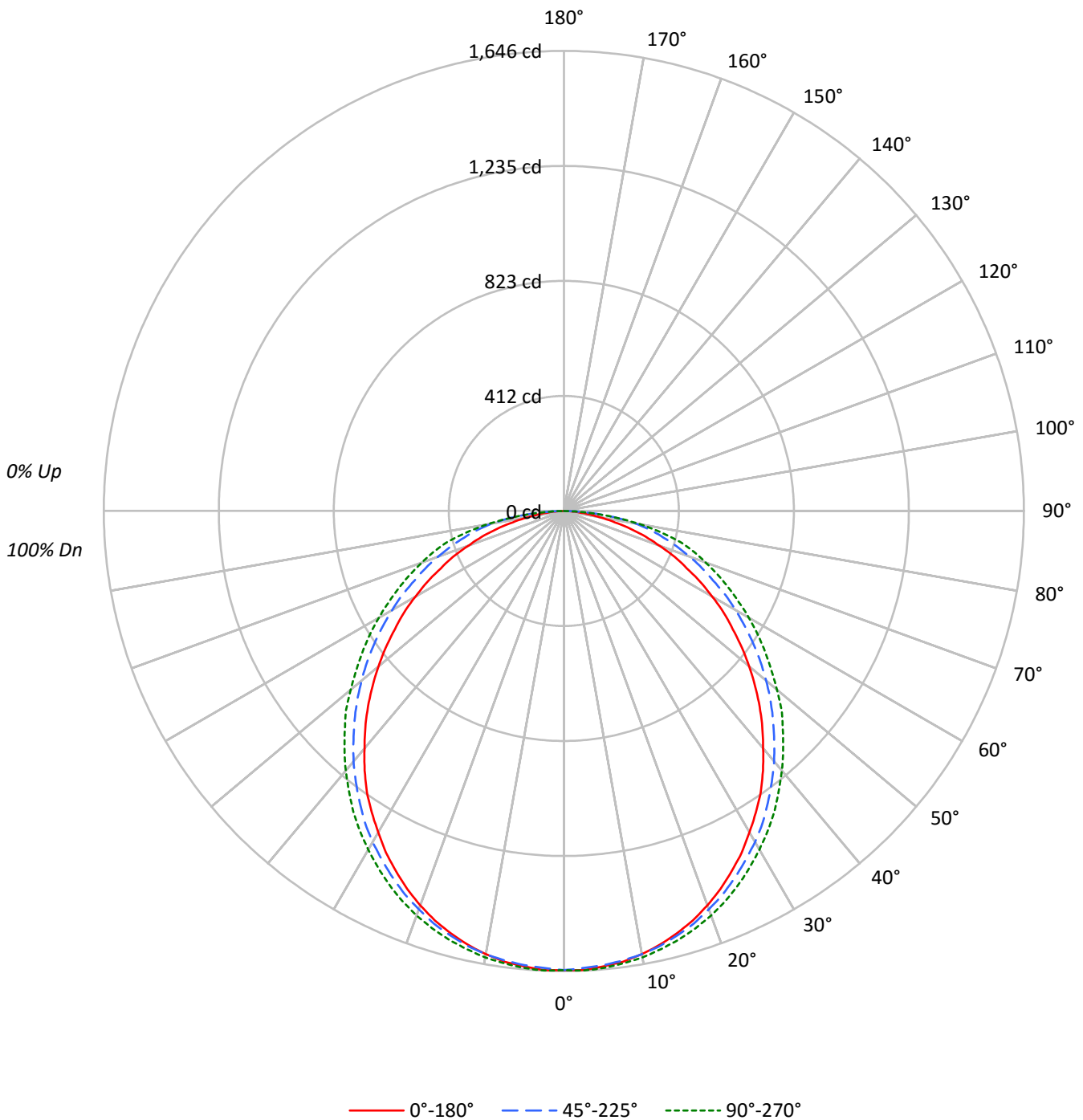
Input Watts (W): 42.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2210	2210	2210
5°	2209	2203	2217
10°	2200	2200	2216
15°	2179	2189	2212
20°	2150	2171	2205
25°	2110	2150	2192
30°	2063	2125	2174
35°	2018	2091	2157
40°	1949	2056	2131
45°	1885	2015	2108
50°	1813	1977	2083
55°	1732	1941	2063
60°	1651	1911	2058
65°	1546	1877	2071
70°	1432	1887	2127
75°	1282	1922	2247
80°	1036	2037	2198
85°	780	1789	1743



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.5	3.3
10°-20°	444.4	9.5
20°-30°	668.0	14.3
30°-40°	795.7	17.0
40°-50°	814.3	17.4
50°-60°	733.1	15.7
60°-70°	575.7	12.3
70°-80°	373.7	8.0
80°-90°	115.6	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°	1267.9	27.1
0°-40°	2063.5	44.1
0°-60°	3611.0	77.2
0°-90°	4676.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4676.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1643	1643	1643	1643	1643	
5°	1635	1638	1631	1640	1641	155
15°	1564	1568	1571	1585	1588	441
25°	1421	1433	1448	1472	1476	655
35°	1228	1243	1273	1304	1313	766
45°	991	1014	1059	1099	1108	764
55°	738	771	827	870	879	662
65°	486	523	590	639	650	483
75°	247	294	370	420	432	261
85°	50	94	116	113	113	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1642.7	1642.7	1642.7	1642.7	1642.7
2.5°	1644.2	1644.2	1636.8	1644.2	1645.7
5°	1635.3	1638.3	1630.8	1639.7	1641.2
7.5°	1626.4	1626.4	1621.9	1630.8	1632.3
10°	1610.0	1611.5	1610.0	1620.4	1621.9
12.5°	1589.2	1592.2	1593.7	1604.1	1605.6
15°	1564.0	1568.4	1571.4	1584.8	1587.8
17.5°	1535.8	1540.2	1547.7	1562.5	1565.5
20°	1501.6	1507.5	1516.5	1535.8	1540.2
22.5°	1464.5	1470.4	1485.3	1503.1	1510.5
25°	1421.4	1433.3	1448.1	1471.9	1476.4
27.5°	1378.3	1388.7	1408.0	1433.3	1439.2
30°	1327.8	1344.2	1367.9	1393.2	1399.1
32.5°	1278.8	1295.2	1323.4	1350.1	1357.5
35°	1228.3	1243.2	1272.9	1304.1	1313.0
37.5°	1170.4	1189.7	1222.4	1253.6	1262.5
40°	1109.5	1133.3	1170.4	1203.1	1213.5
42.5°	1051.6	1076.8	1114.0	1149.6	1161.5
45°	990.7	1014.4	1059.0	1099.1	1108.0
47.5°	928.3	955.0	1002.6	1042.7	1057.5
50°	865.9	894.1	944.6	986.2	995.1
52.5°	803.5	833.2	886.7	931.3	935.7
55°	738.2	770.9	827.3	870.4	879.3
57.5°	678.8	707.0	767.9	812.4	822.8
60°	613.4	644.6	710.0	751.5	764.9
62.5°	551.0	583.7	652.0	693.6	705.5
65°	485.7	522.8	589.7	638.7	650.5
67.5°	429.2	464.9	536.2	583.7	595.6
70°	363.9	404.0	479.7	528.8	540.6
72.5°	307.5	349.0	424.8	472.3	490.1
75°	246.6	294.1	369.8	420.3	432.2
77.5°	187.1	242.1	319.3	358.0	358.0
80°	133.7	191.6	262.9	280.7	283.7
82.5°	87.6	144.1	194.6	193.1	193.1
85°	50.5	93.6	115.9	112.9	112.9
87.5°	19.3	38.6	41.6	41.6	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)