

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: P311574

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CA08-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: P311574
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-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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: 4881.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

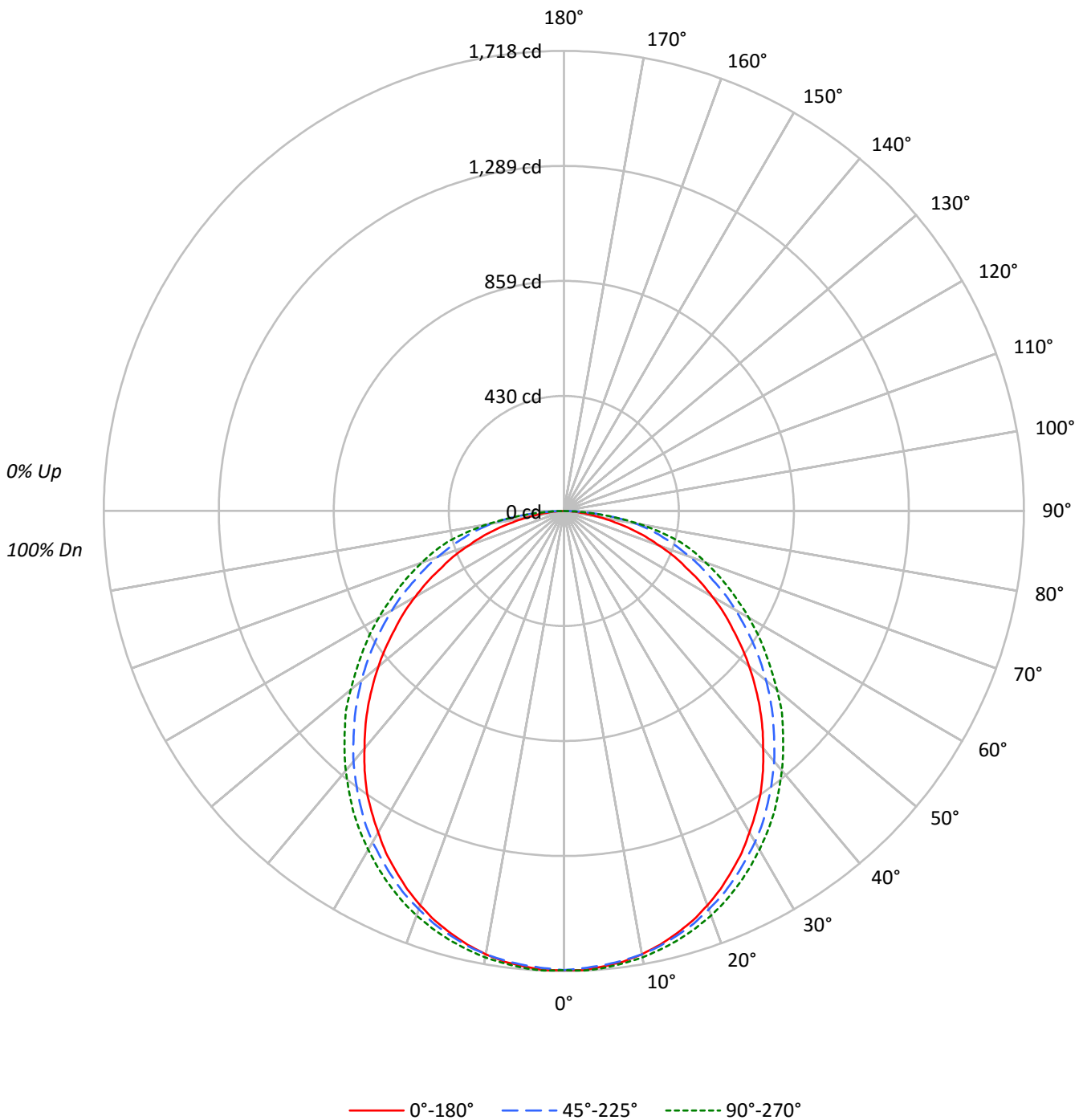
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2307	2307	2307
5°	2306	2299	2314
10°	2296	2296	2313
15°	2274	2285	2309
20°	2244	2266	2302
25°	2203	2244	2288
30°	2153	2218	2269
35°	2106	2182	2251
40°	2034	2146	2225
45°	1968	2103	2201
50°	1892	2064	2174
55°	1807	2026	2153
60°	1723	1994	2148
65°	1614	1960	2162
70°	1494	1970	2220
75°	1338	2007	2346
80°	1081	2126	2294
85°	814	1866	1819



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	3.3
10°-20°	463.8	9.5
20°-30°	697.3	14.3
30°-40°	830.6	17.0
40°-50°	850.0	17.4
50°-60°	765.3	15.7
60°-70°	601.0	12.3
70°-80°	390.0	8.0
80°-90°	120.6	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°	1323.4	27.1
0°-40°	2154.0	44.1
0°-60°	3769.3	77.2
0°-90°	4881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4881.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1715	1715	1715	1715	1715	
5°	1707	1710	1702	1712	1713	162
15°	1633	1637	1640	1654	1657	460
25°	1484	1496	1512	1536	1541	684
35°	1282	1298	1329	1361	1370	800
45°	1034	1059	1105	1147	1157	797
55°	770	805	864	908	918	691
65°	507	546	616	667	679	505
75°	257	307	386	439	451	272
85°	53	98	121	118	118	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1714.7	1714.7	1714.7	1714.7	1714.7
2.5°	1716.3	1716.3	1708.5	1716.3	1717.8
5°	1707.0	1710.1	1702.3	1711.6	1713.2
7.5°	1697.7	1697.7	1693.0	1702.3	1703.9
10°	1680.6	1682.2	1680.6	1691.5	1693.0
12.5°	1658.9	1662.0	1663.6	1674.4	1676.0
15°	1632.6	1637.2	1640.3	1654.3	1657.4
17.5°	1603.1	1607.8	1615.5	1631.0	1634.1
20°	1567.4	1573.6	1582.9	1603.1	1607.8
22.5°	1528.7	1534.9	1550.4	1569.0	1576.7
25°	1483.7	1496.1	1511.6	1536.4	1541.1
27.5°	1438.8	1449.6	1469.8	1496.1	1502.3
30°	1386.0	1403.1	1427.9	1454.3	1460.5
32.5°	1334.9	1351.9	1381.4	1409.3	1417.1
35°	1282.2	1297.7	1328.7	1361.2	1370.5
37.5°	1221.7	1241.9	1276.0	1308.5	1317.8
40°	1158.1	1182.9	1221.7	1255.8	1266.7
42.5°	1097.7	1124.0	1162.8	1200.0	1212.4
45°	1034.1	1058.9	1105.4	1147.3	1156.6
47.5°	969.0	996.9	1046.5	1088.4	1103.9
50°	903.9	933.3	986.0	1029.5	1038.8
52.5°	838.8	869.8	925.6	972.1	976.7
55°	770.5	804.7	863.6	908.5	917.8
57.5°	708.5	738.0	801.5	848.1	858.9
60°	640.3	672.9	741.1	784.5	798.4
62.5°	575.2	609.3	680.6	724.0	736.4
65°	507.0	545.7	615.5	666.7	679.1
67.5°	448.1	485.3	559.7	609.3	621.7
70°	379.8	421.7	500.8	551.9	564.3
72.5°	320.9	364.3	443.4	493.0	511.6
75°	257.4	307.0	386.0	438.8	451.2
77.5°	195.3	252.7	333.3	373.6	373.6
80°	139.5	200.0	274.4	293.0	296.1
82.5°	91.5	150.4	203.1	201.6	201.6
85°	52.7	97.7	120.9	117.8	117.8
87.5°	20.2	40.3	43.4	43.4	41.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)