

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: P314406

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP187-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: P314406
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-L83050-S-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 4496.0 lumens
Efficiency: N/A
Efficacy: 105.3 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

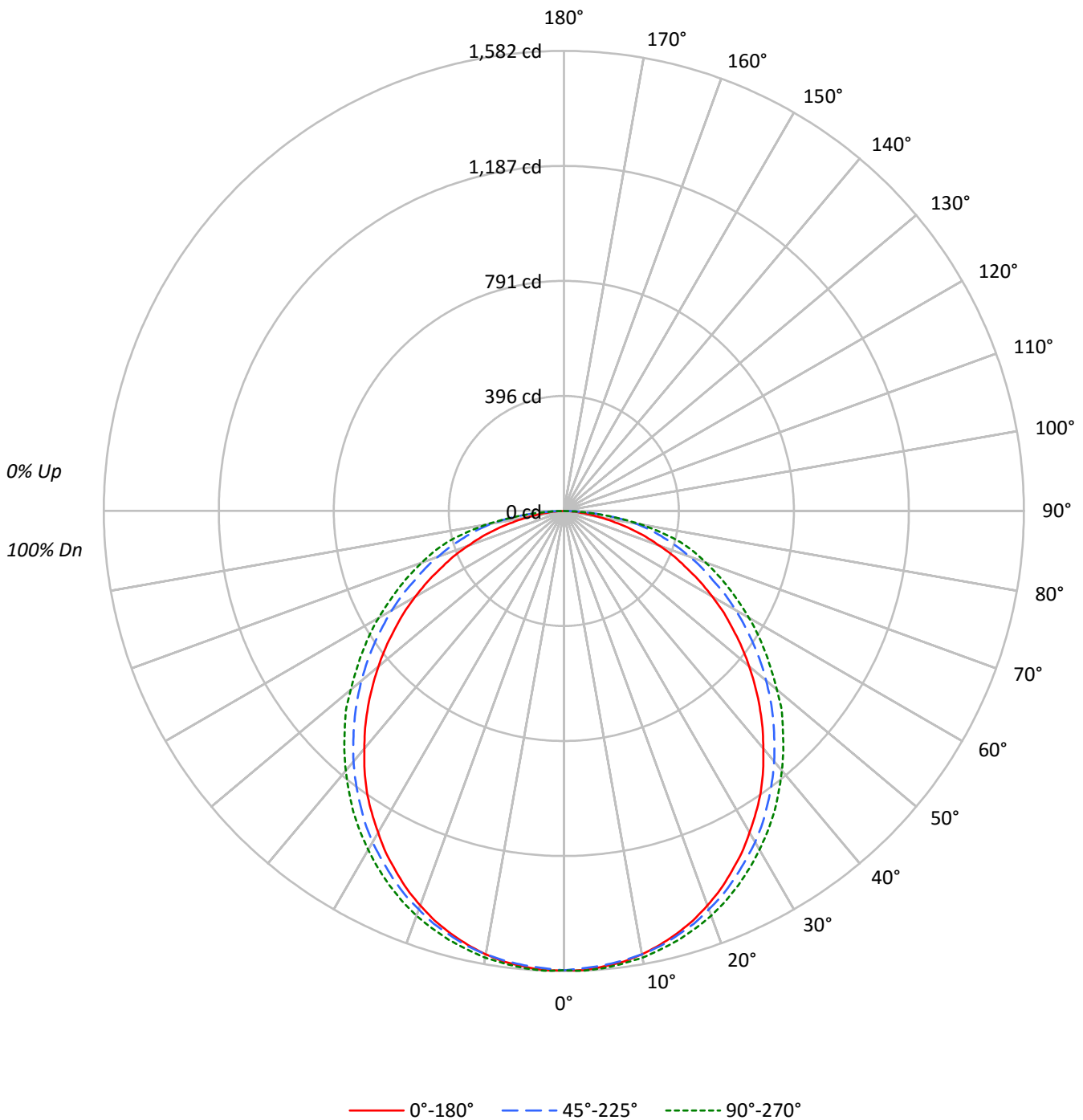
Input Watts (W): 42.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2125	2125	2125
5°	2124	2118	2131
10°	2115	2115	2131
15°	2095	2105	2126
20°	2067	2088	2120
25°	2029	2067	2107
30°	1984	2043	2090
35°	1940	2010	2074
40°	1874	1976	2049
45°	1812	1937	2027
50°	1743	1901	2003
55°	1665	1866	1983
60°	1587	1837	1979
65°	1487	1805	1991
70°	1376	1815	2045
75°	1233	1849	2161
80°	996	1959	2114
85°	750	1720	1675



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.5	3.3
10°-20°	427.3	9.5
20°-30°	642.3	14.3
30°-40°	765.0	17.0
40°-50°	783.0	17.4
50°-60°	704.9	15.7
60°-70°	553.6	12.3
70°-80°	359.3	8.0
80°-90°	111.1	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°	1219.1	27.1
0°-40°	1984.1	44.1
0°-60°	3472.0	77.2
0°-90°	4496.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4496.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1572	1575	1568	1577	1578	149
15°	1504	1508	1511	1524	1527	424
25°	1367	1378	1392	1415	1420	630
35°	1181	1195	1224	1254	1262	737
45°	952	975	1018	1057	1065	734
55°	710	741	795	837	845	636
65°	467	503	567	614	626	465
75°	237	283	356	404	416	251
85°	49	90	111	108	108	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1579.5	1579.5	1579.5	1579.5	1579.5
2.5°	1580.9	1580.9	1573.8	1580.9	1582.3
5°	1572.3	1575.2	1568.0	1576.6	1578.0
7.5°	1563.8	1563.8	1559.5	1568.0	1569.5
10°	1548.1	1549.5	1548.1	1558.1	1559.5
12.5°	1528.1	1530.9	1532.3	1542.3	1543.8
15°	1503.8	1508.1	1510.9	1523.8	1526.6
17.5°	1476.7	1480.9	1488.1	1502.4	1505.2
20°	1443.8	1449.5	1458.1	1476.7	1480.9
22.5°	1408.1	1413.8	1428.1	1445.2	1452.4
25°	1366.7	1378.1	1392.4	1415.2	1419.5
27.5°	1325.3	1335.3	1353.8	1378.1	1383.8
30°	1276.7	1292.4	1315.3	1339.6	1345.3
32.5°	1229.6	1245.3	1272.4	1298.1	1305.3
35°	1181.0	1195.3	1223.9	1253.9	1262.4
37.5°	1125.3	1143.9	1175.3	1205.3	1213.9
40°	1066.8	1089.6	1125.3	1156.8	1166.8
42.5°	1011.1	1035.4	1071.1	1105.3	1116.8
45°	952.5	975.4	1018.2	1056.8	1065.4
47.5°	892.6	918.3	964.0	1002.5	1016.8
50°	832.6	859.7	908.3	948.3	956.8
52.5°	772.6	801.2	852.6	895.4	899.7
55°	709.8	741.2	795.4	836.9	845.4
57.5°	652.6	679.8	738.3	781.2	791.2
60°	589.8	619.8	682.6	722.6	735.5
62.5°	529.8	561.2	626.9	666.9	678.3
65°	467.0	502.7	567.0	614.1	625.5
67.5°	412.7	447.0	515.5	561.2	572.7
70°	349.9	388.4	461.3	508.4	519.8
72.5°	295.6	335.6	408.4	454.1	471.3
75°	237.1	282.8	355.6	404.2	415.6
77.5°	179.9	232.8	307.0	344.2	344.2
80°	128.5	184.2	252.8	269.9	272.8
82.5°	84.3	138.5	187.1	185.7	185.7
85°	48.6	90.0	111.4	108.5	108.5
87.5°	18.6	37.1	40.0	40.0	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)