

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: P311604

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311604
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-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5700K 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: 4688.0 lumens
Efficiency: N/A
Efficacy: 106.8 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

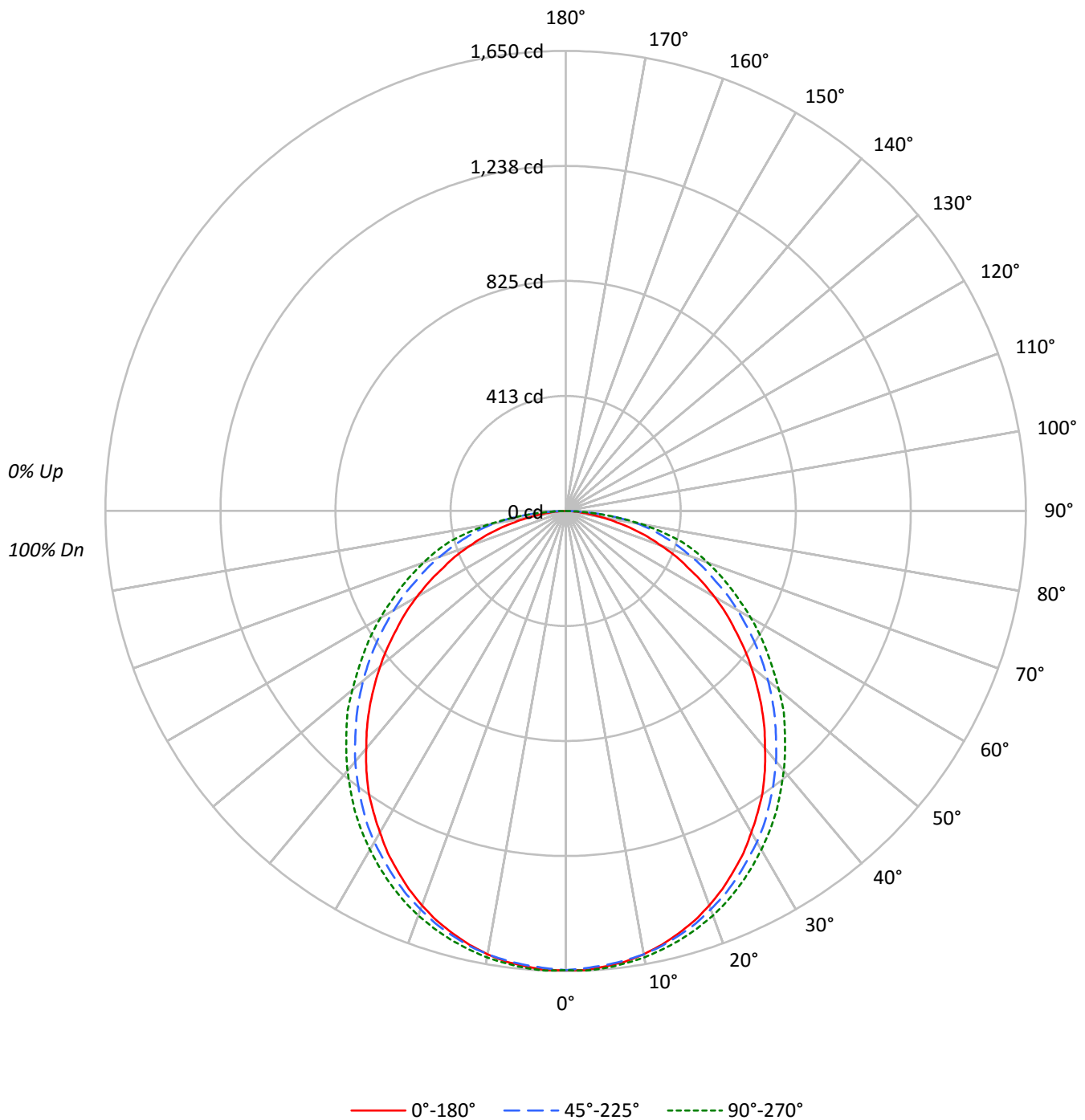
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2216	2216	2216
5°	2214	2208	2222
10°	2205	2205	2222
15°	2184	2194	2217
20°	2156	2177	2211
25°	2116	2155	2197
30°	2068	2131	2179
35°	2023	2096	2162
40°	1954	2061	2137
45°	1890	2020	2114
50°	1817	1982	2088
55°	1736	1946	2068
60°	1655	1915	2064
65°	1550	1882	2076
70°	1435	1892	2132
75°	1285	1928	2253
80°	1038	2042	2204
85°	781	1792	1748



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.9	3.3
10°-20°	445.5	9.5
20°-30°	669.7	14.3
30°-40°	797.7	17.0
40°-50°	816.4	17.4
50°-60°	735.0	15.7
60°-70°	577.2	12.3
70°-80°	374.6	8.0
80°-90°	115.9	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°	1271.1	27.1
0°-40°	2068.8	44.1
0°-60°	3620.3	77.2
0°-90°	4688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4688.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1647	1647	1647	1647	1647	
5°	1640	1642	1635	1644	1645	156
15°	1568	1572	1575	1589	1592	442
25°	1425	1437	1452	1476	1480	656
35°	1232	1246	1276	1307	1316	768
45°	993	1017	1062	1102	1111	766
55°	740	773	829	873	882	663
65°	487	524	591	640	652	485
75°	247	295	371	421	433	262
85°	51	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°	1646.9	1646.9	1646.9	1646.9	1646.9
2.5°	1648.4	1648.4	1641.0	1648.4	1649.9
5°	1639.5	1642.5	1635.0	1643.9	1645.4
7.5°	1630.5	1630.5	1626.1	1635.0	1636.5
10°	1614.2	1615.7	1614.2	1624.6	1626.1
12.5°	1593.3	1596.3	1597.8	1608.2	1609.7
15°	1568.0	1572.5	1575.4	1588.9	1591.8
17.5°	1539.7	1544.2	1551.6	1566.5	1569.5
20°	1505.5	1511.4	1520.4	1539.7	1544.2
22.5°	1468.2	1474.2	1489.1	1507.0	1514.4
25°	1425.1	1437.0	1451.9	1475.7	1480.1
27.5°	1381.9	1392.3	1411.7	1437.0	1442.9
30°	1331.2	1347.6	1371.4	1396.8	1402.7
32.5°	1282.1	1298.5	1326.8	1353.6	1361.0
35°	1231.5	1246.4	1276.1	1307.4	1316.3
37.5°	1173.4	1192.8	1225.5	1256.8	1265.7
40°	1112.3	1136.2	1173.4	1206.2	1216.6
42.5°	1054.3	1079.6	1116.8	1152.5	1164.5
45°	993.2	1017.0	1061.7	1101.9	1110.9
47.5°	930.7	957.5	1005.1	1045.3	1060.2
50°	868.1	896.4	947.1	988.8	997.7
52.5°	805.6	835.4	889.0	933.7	938.1
55°	740.1	772.8	829.4	872.6	881.5
57.5°	680.5	708.8	769.9	814.5	825.0
60°	615.0	646.3	711.8	753.5	766.9
62.5°	552.4	585.2	653.7	695.4	707.3
65°	486.9	524.2	591.2	640.3	652.2
67.5°	430.3	466.1	537.6	585.2	597.1
70°	364.8	405.0	481.0	530.1	542.0
72.5°	308.2	349.9	425.9	473.5	491.4
75°	247.2	294.8	370.8	421.4	433.3
77.5°	187.6	242.7	320.2	358.9	358.9
80°	134.0	192.1	263.6	281.4	284.4
82.5°	87.9	144.4	195.1	193.6	193.6
85°	50.6	93.8	116.1	113.2	113.2
87.5°	19.4	38.7	41.7	41.7	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)