

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: P311556

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP187-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: P311556
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: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 4590.0 lumens
Efficiency: N/A
Efficacy: 117.4 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

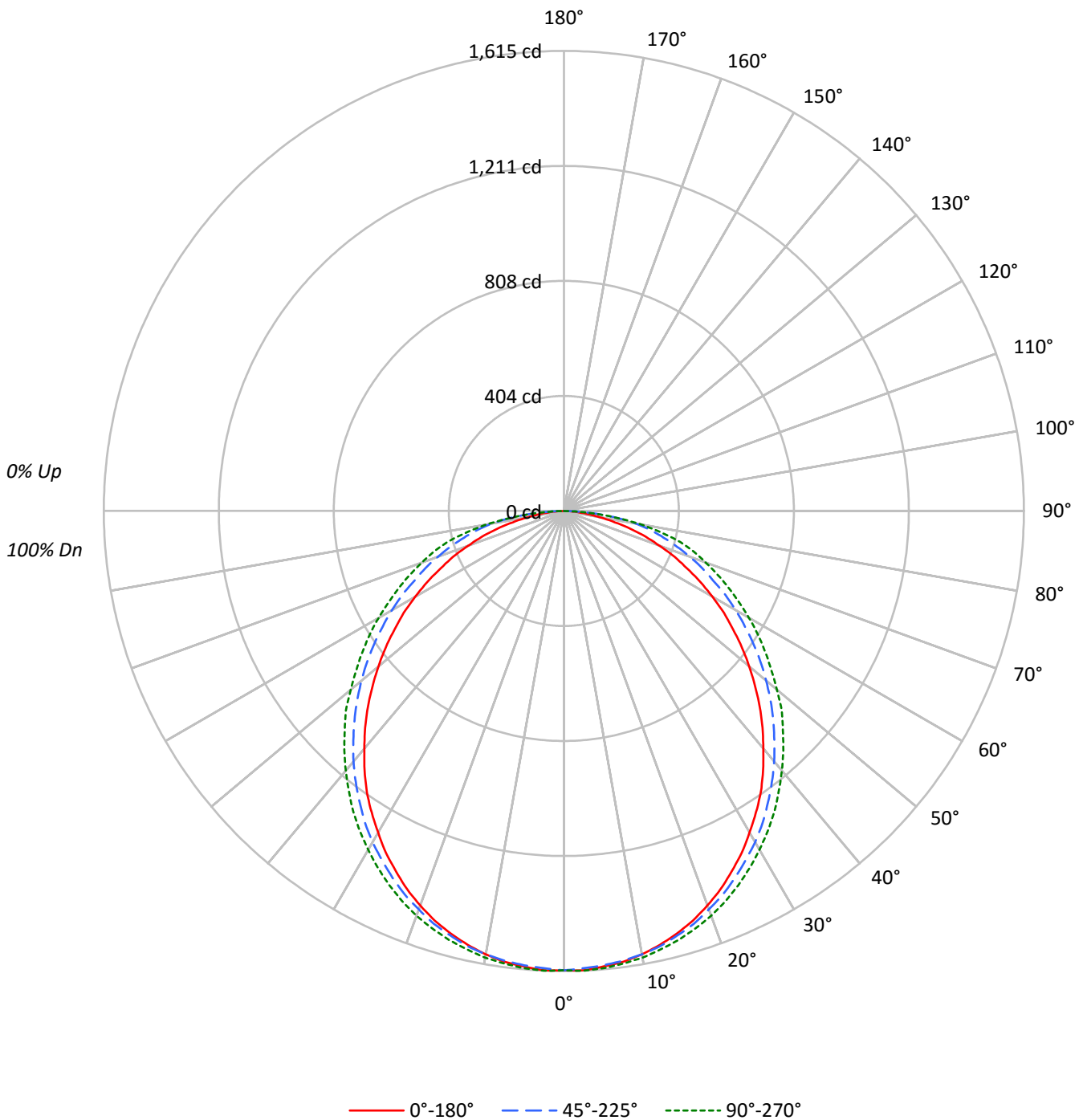
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2170	2170	2170
5°	2168	2162	2176
10°	2159	2159	2175
15°	2138	2149	2171
20°	2111	2131	2165
25°	2071	2110	2151
30°	2025	2086	2134
35°	1980	2052	2117
40°	1913	2018	2092
45°	1850	1978	2069
50°	1779	1941	2045
55°	1700	1905	2025
60°	1620	1875	2020
65°	1518	1843	2033
70°	1405	1852	2088
75°	1258	1887	2206
80°	1017	2000	2158
85°	766	1755	1711



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.7	3.3
10°-20°	436.2	9.5
20°-30°	655.7	14.3
30°-40°	781.0	17.0
40°-50°	799.4	17.4
50°-60°	719.7	15.7
60°-70°	565.2	12.3
70°-80°	366.8	8.0
80°-90°	113.4	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°	1244.5	27.1
0°-40°	2025.6	44.1
0°-60°	3544.6	77.2
0°-90°	4590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4590.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1612	1612	1612	1612	1612	
5°	1605	1608	1601	1610	1611	153
15°	1535	1540	1542	1556	1559	433
25°	1395	1407	1422	1445	1449	643
35°	1206	1220	1250	1280	1289	752
45°	972	996	1040	1079	1088	750
55°	725	757	812	854	863	650
65°	477	513	579	627	639	475
75°	242	289	363	413	424	256
85°	50	92	114	111	111	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1612.5	1612.5	1612.5	1612.5	1612.5
2.5°	1614.0	1614.0	1606.7	1614.0	1615.4
5°	1605.2	1608.1	1600.8	1609.6	1611.0
7.5°	1596.5	1596.5	1592.1	1600.8	1602.3
10°	1580.4	1581.9	1580.4	1590.6	1592.1
12.5°	1560.0	1562.9	1564.4	1574.6	1576.0
15°	1535.2	1539.6	1542.5	1555.6	1558.6
17.5°	1507.5	1511.9	1519.2	1533.8	1536.7
20°	1474.0	1479.8	1488.6	1507.5	1511.9
22.5°	1437.5	1443.4	1458.0	1475.4	1482.7
25°	1395.3	1406.9	1421.5	1444.8	1449.2
27.5°	1353.0	1363.2	1382.1	1406.9	1412.8
30°	1303.4	1319.4	1342.8	1367.6	1373.4
32.5°	1255.3	1271.3	1299.0	1325.3	1332.6
35°	1205.7	1220.3	1249.5	1280.1	1288.8
37.5°	1148.9	1167.8	1199.9	1230.5	1239.3
40°	1089.1	1112.4	1148.9	1180.9	1191.1
42.5°	1032.2	1057.0	1093.5	1128.5	1140.1
45°	972.5	995.8	1039.5	1078.9	1087.6
47.5°	911.2	937.5	984.1	1023.5	1038.1
50°	850.0	877.7	927.3	968.1	976.8
52.5°	788.8	817.9	870.4	914.1	918.5
55°	724.6	756.7	812.1	854.4	863.1
57.5°	666.3	694.0	753.8	797.5	807.7
60°	602.1	632.8	696.9	737.7	750.8
62.5°	540.9	573.0	640.0	680.9	692.5
65°	476.8	513.2	578.8	626.9	638.6
67.5°	421.3	456.3	526.3	573.0	584.6
70°	357.2	396.6	470.9	519.0	530.7
72.5°	301.8	342.6	417.0	463.6	481.1
75°	242.0	288.7	363.0	412.6	424.3
77.5°	183.7	237.6	313.5	351.4	351.4
80°	131.2	188.1	258.1	275.6	278.5
82.5°	86.0	141.4	191.0	189.5	189.5
85°	49.6	91.9	113.7	110.8	110.8
87.5°	19.0	37.9	40.8	40.8	39.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)