

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: P311567

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5500K**

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: P311567
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-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 4659.0 lumens
Efficiency: N/A
Efficacy: 117.9 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

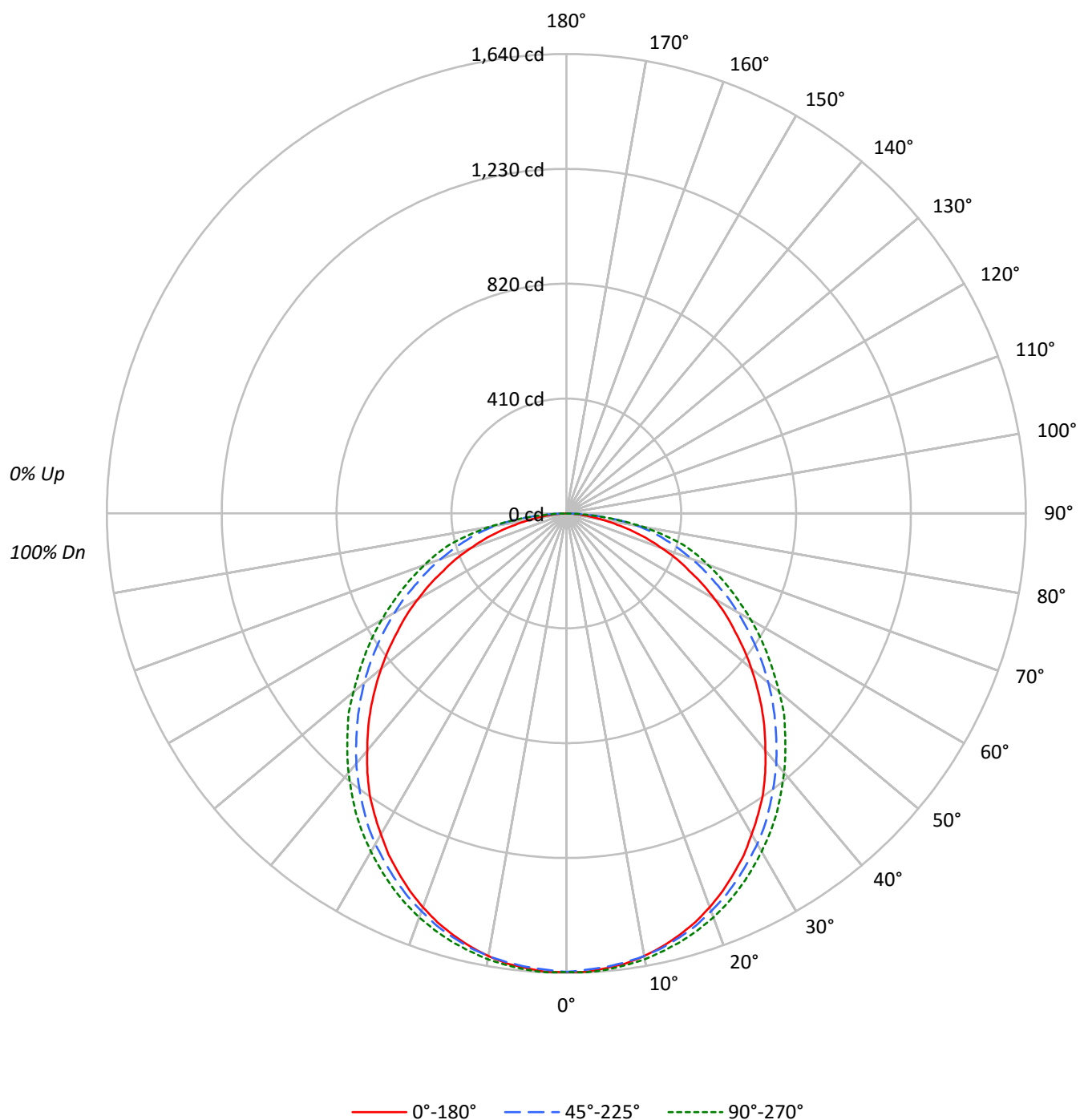
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311567

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5500K

Luminous Intensity Polar Plot





TEST NUMBER: P311567

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5500K

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	50	30	10	50	30	10
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°	2202	2202	2202
5°	2201	2195	2209
10°	2192	2192	2208
15°	2171	2181	2204
20°	2142	2163	2197
25°	2102	2142	2184
30°	2055	2118	2166
35°	2010	2083	2149
40°	1942	2048	2124
45°	1878	2008	2101
50°	1806	1970	2075
55°	1725	1934	2055
60°	1645	1904	2051
65°	1541	1870	2064
70°	1426	1880	2119
75°	1277	1916	2239
80°	1032	2029	2190
85°	777	1782	1737



TEST NUMBER: P311567

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.0	3.3
10°-20°	442.7	9.5
20°-30°	665.6	14.3
30°-40°	792.8	17.0
40°-50°	811.4	17.4
50°-60°	730.5	15.7
60°-70°	573.7	12.3
70°-80°	372.3	8.0
80°-90°	115.1	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°	1263.3	27.1
0°-40°	2056.0	44.1
0°-60°	3597.9	77.2
0°-90°	4659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4659.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1629	1632	1625	1634	1635	155
15°	1558	1563	1566	1579	1582	439
25°	1416	1428	1443	1467	1471	652
35°	1224	1239	1268	1299	1308	764
45°	987	1011	1055	1095	1104	761
55°	736	768	824	867	876	659
65°	484	521	588	636	648	482
75°	246	293	368	419	431	260
85°	50	93	115	112	112	61
90°	0	0	0	0	0	



TEST NUMBER: P311567

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1636.7	1636.7	1636.7	1636.7	1636.7
2.5°	1638.2	1638.2	1630.8	1638.2	1639.7
5°	1629.3	1632.3	1624.9	1633.8	1635.3
7.5°	1620.5	1620.5	1616.0	1624.9	1626.4
10°	1604.2	1605.7	1604.2	1614.5	1616.0
12.5°	1583.5	1586.4	1587.9	1598.3	1599.7
15°	1558.3	1562.7	1565.7	1579.0	1582.0
17.5°	1530.2	1534.6	1542.0	1556.8	1559.8
20°	1496.1	1502.1	1510.9	1530.2	1534.6
22.5°	1459.2	1465.1	1479.9	1497.6	1505.0
25°	1416.2	1428.1	1442.9	1466.6	1471.0
27.5°	1373.3	1383.7	1402.9	1428.1	1434.0
30°	1323.0	1339.3	1363.0	1388.1	1394.0
32.5°	1274.2	1290.4	1318.6	1345.2	1352.6
35°	1223.9	1238.7	1268.2	1299.3	1308.2
37.5°	1166.1	1185.4	1217.9	1249.0	1257.9
40°	1105.5	1129.1	1166.1	1198.7	1209.1
42.5°	1047.7	1072.9	1109.9	1145.4	1157.3
45°	987.1	1010.8	1055.1	1095.1	1104.0
47.5°	924.9	951.6	998.9	1038.9	1053.7
50°	862.8	890.9	941.2	982.6	991.5
52.5°	800.6	830.2	883.5	927.9	932.3
55°	735.5	768.1	824.3	867.2	876.1
57.5°	676.3	704.4	765.1	809.5	819.8
60°	611.2	642.3	707.4	748.8	762.1
62.5°	549.0	581.6	649.7	691.1	702.9
65°	483.9	520.9	587.5	636.3	648.2
67.5°	427.7	463.2	534.2	581.6	593.4
70°	362.6	402.5	478.0	526.8	538.7
72.5°	306.3	347.8	423.2	470.6	488.4
75°	245.7	293.0	368.5	418.8	430.6
77.5°	186.5	241.2	318.2	356.6	356.6
80°	133.2	190.9	261.9	279.7	282.7
82.5°	87.3	143.5	193.9	192.4	192.4
85°	50.3	93.2	115.4	112.5	112.5
87.5°	19.2	38.5	41.4	41.4	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)