

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: P310899

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P310899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 4645.0 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

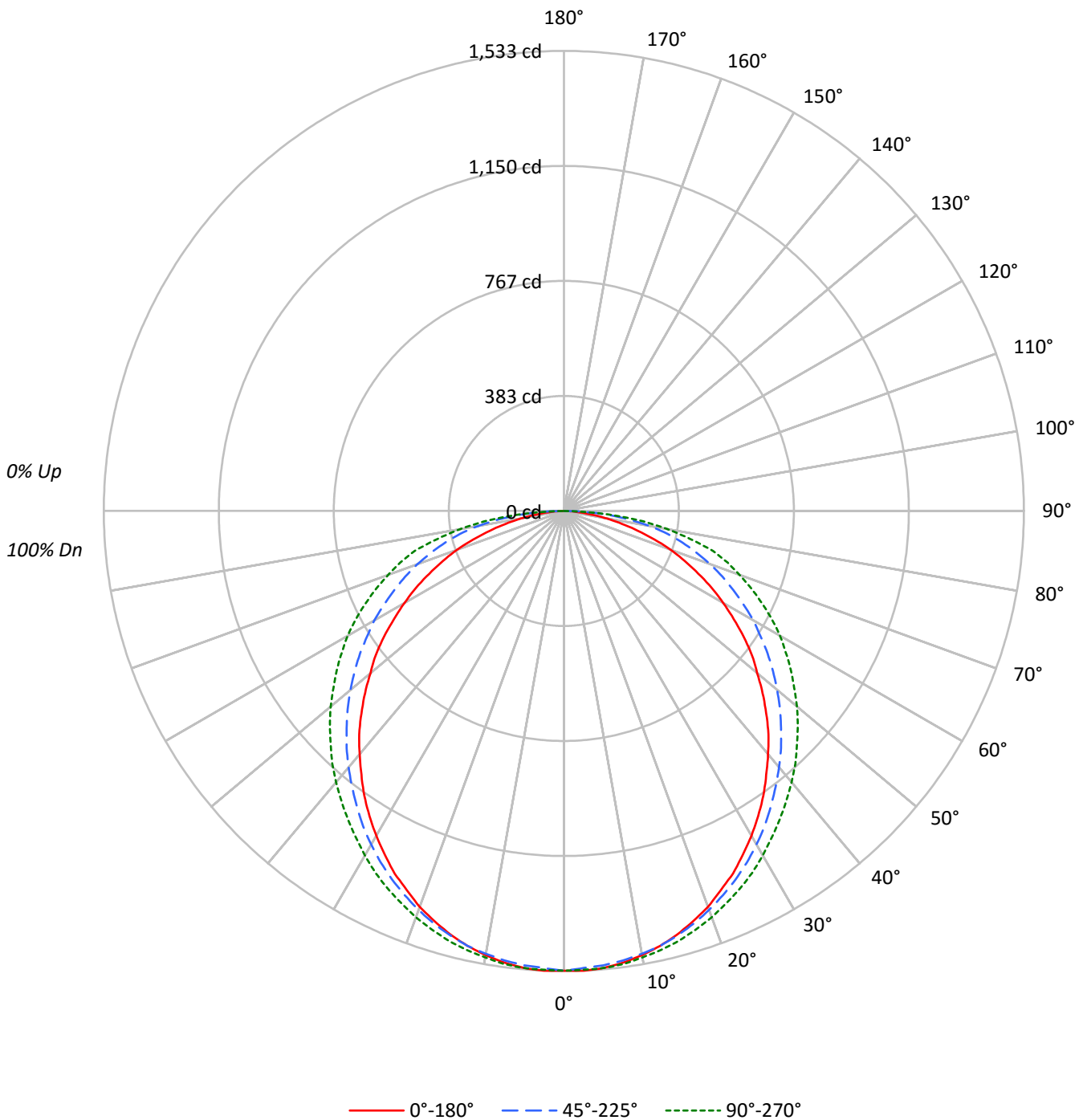
Input Watts (W): 43.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310899

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-CA08-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P310899

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-CA08-W2A-U-4500K

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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2061	2061	2061
5°	2065	2052	2065
10°	2053	2047	2063
15°	2035	2039	2065
20°	2010	2026	2063
25°	1979	2011	2061
30°	1942	1995	2059
35°	1904	1974	2061
40°	1860	1960	2073
45°	1815	1947	2091
50°	1761	1942	2123
55°	1717	1945	2165
60°	1651	1962	2239
65°	1575	1982	2321
70°	1491	2043	2449
75°	1330	2131	2676
80°	1134	2257	2734
85°	809	2237	2617



TEST NUMBER: P310899

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-CA08-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.0	3.1
10°-20°	414.5	8.9
20°-30°	626.1	13.5
30°-40°	754.6	16.2
40°-50°	792.2	17.1
50°-60°	741.1	16.0
60°-70°	612.1	13.2
70°-80°	417.1	9.0
80°-90°	142.3	3.1
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°	1185.6	25.5
0°-40°	1940.2	41.8
0°-60°	3473.6	74.8
0°-90°	4645.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4645.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1532	1532	1532	1532	1532	
5°	1529	1527	1520	1529	1529	145
15°	1461	1462	1464	1480	1483	412
25°	1333	1339	1355	1381	1389	613
35°	1159	1171	1202	1242	1254	724
45°	954	974	1023	1079	1099	736
55°	732	761	829	897	923	653
65°	495	536	623	701	729	491
75°	256	314	410	487	515	273
85°	52	103	145	163	170	66
90°	0	0	0	0	0	



TEST NUMBER: P310899

CATALOG NUMBER: 24FCZ2-50-UNV-L82765-CA08-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1531.9	1531.9	1531.9	1531.9	1531.9
2.5°	1533.4	1531.9	1524.2	1531.9	1530.3
5°	1528.8	1527.3	1519.6	1528.8	1528.8
7.5°	1518.0	1518.0	1510.3	1521.1	1522.6
10°	1502.6	1502.6	1498.0	1510.3	1510.3
12.5°	1484.1	1484.1	1484.1	1496.4	1498.0
15°	1461.0	1462.5	1464.1	1479.5	1482.6
17.5°	1433.2	1436.3	1441.0	1459.4	1462.5
20°	1404.0	1407.0	1414.8	1436.3	1441.0
22.5°	1367.0	1374.7	1385.5	1410.1	1414.8
25°	1333.1	1339.2	1354.7	1380.9	1388.6
27.5°	1291.5	1300.7	1320.7	1348.5	1359.3
30°	1249.9	1259.1	1283.8	1316.1	1325.4
32.5°	1205.2	1219.0	1245.2	1279.1	1289.9
35°	1158.9	1171.3	1202.1	1242.1	1254.5
37.5°	1108.1	1125.0	1158.9	1202.1	1217.5
40°	1058.8	1077.2	1115.8	1162.0	1180.5
42.5°	1009.4	1027.9	1071.1	1123.5	1142.0
45°	954.0	974.0	1023.3	1078.8	1098.8
47.5°	898.5	923.1	977.1	1035.6	1057.2
50°	841.5	869.2	927.8	989.4	1014.1
52.5°	790.6	816.8	878.4	944.7	967.8
55°	732.0	761.3	829.1	896.9	923.1
57.5°	671.9	704.3	776.7	850.7	876.9
60°	613.4	648.8	729.0	802.9	832.2
62.5°	556.3	591.8	675.0	752.1	781.4
65°	494.7	536.3	622.6	701.2	729.0
67.5°	436.1	480.8	571.8	648.8	676.6
70°	379.1	422.3	519.4	594.9	622.6
72.5°	317.5	366.8	463.9	542.5	571.8
75°	255.8	314.4	409.9	487.0	514.7
77.5°	198.8	258.9	354.5	417.6	431.5
80°	146.4	208.1	291.3	336.0	352.9
82.5°	94.0	155.7	221.9	254.3	268.2
85°	52.4	103.3	144.9	163.4	169.5
87.5°	21.6	44.7	58.6	66.3	66.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)