

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: P311559

Luminaire Tested: **24FCZ2-50HE-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: P311559
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 4710.0 lumens
Efficiency: N/A
Efficacy: 119.2 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

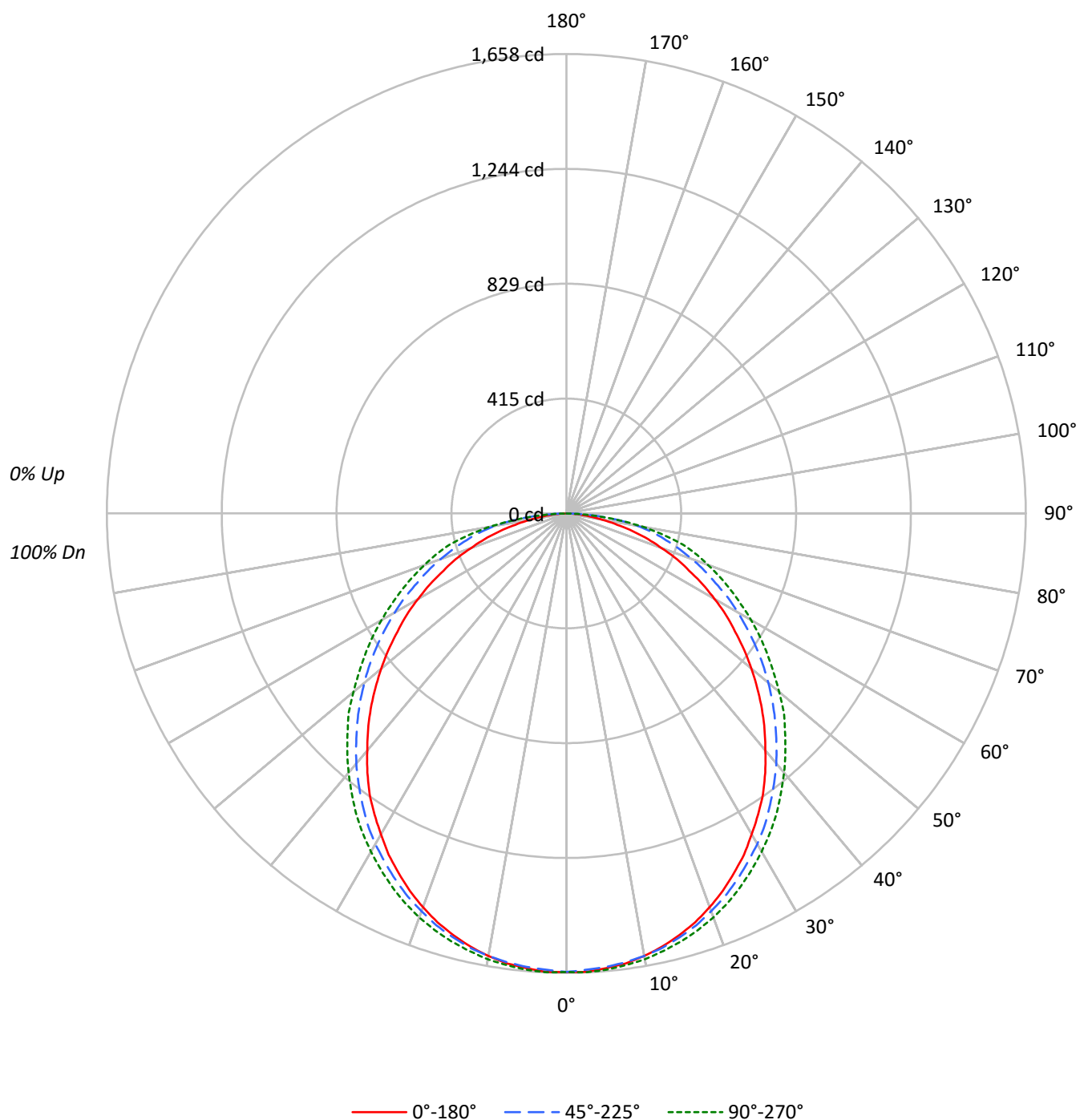
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311559

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5700K

Luminous Intensity Polar Plot





TEST NUMBER: P311559

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5700K

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°	2226	2226	2226
5°	2225	2219	2233
10°	2216	2216	2232
15°	2194	2205	2228
20°	2166	2187	2221
25°	2125	2166	2208
30°	2078	2141	2190
35°	2032	2106	2172
40°	1963	2071	2147
45°	1899	2030	2124
50°	1826	1992	2098
55°	1744	1955	2078
60°	1663	1924	2073
65°	1557	1891	2086
70°	1442	1901	2142
75°	1291	1936	2263
80°	1043	2052	2214
85°	786	1802	1755



TEST NUMBER: P311559

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.6	3.3
10°-20°	447.6	9.5
20°-30°	672.8	14.3
30°-40°	801.5	17.0
40°-50°	820.3	17.4
50°-60°	738.5	15.7
60°-70°	579.9	12.3
70°-80°	376.4	8.0
80°-90°	116.4	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°	1277.1	27.1
0°-40°	2078.5	44.1
0°-60°	3637.3	77.2
0°-90°	4710.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4710.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1655	1655	1655	1655	1655	
5°	1647	1650	1643	1652	1653	157
15°	1575	1580	1583	1596	1599	444
25°	1432	1444	1459	1483	1487	660
35°	1237	1252	1282	1314	1322	772
45°	998	1022	1067	1107	1116	769
55°	744	776	833	877	886	667
65°	489	527	594	643	655	487
75°	248	296	372	423	435	263
85°	51	94	117	114	114	61
90°	0	0	0	0	0	



TEST NUMBER: P311559

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.7	1654.7	1654.7	1654.7	1654.7
2.5°	1656.1	1656.1	1648.7	1656.1	1657.6
5°	1647.2	1650.2	1642.7	1651.7	1653.2
7.5°	1638.2	1638.2	1633.7	1642.7	1644.2
10°	1621.7	1623.2	1621.7	1632.2	1633.7
12.5°	1600.8	1603.8	1605.3	1615.8	1617.3
15°	1575.4	1579.9	1582.8	1596.3	1599.3
17.5°	1546.9	1551.4	1558.9	1573.9	1576.9
20°	1512.5	1518.5	1527.5	1546.9	1551.4
22.5°	1475.1	1481.1	1496.1	1514.0	1521.5
25°	1431.7	1443.7	1458.7	1482.6	1487.1
27.5°	1388.4	1398.8	1418.3	1443.7	1449.7
30°	1337.5	1353.9	1377.9	1403.3	1409.3
32.5°	1288.1	1304.6	1333.0	1359.9	1367.4
35°	1237.3	1252.2	1282.1	1313.5	1322.5
37.5°	1178.9	1198.4	1231.3	1262.7	1271.7
40°	1117.6	1141.5	1178.9	1211.8	1222.3
42.5°	1059.2	1084.7	1122.1	1158.0	1169.9
45°	997.9	1021.8	1066.7	1107.1	1116.1
47.5°	935.0	962.0	1009.8	1050.2	1065.2
50°	872.2	900.6	951.5	993.4	1002.4
52.5°	809.4	839.3	893.2	938.0	942.5
55°	743.5	776.5	833.3	876.7	885.7
57.5°	683.7	712.1	773.5	818.4	828.8
60°	617.9	649.3	715.1	757.0	770.5
62.5°	555.0	588.0	656.8	698.7	710.6
65°	489.2	526.6	593.9	643.3	655.3
67.5°	432.4	468.3	540.1	588.0	599.9
70°	366.5	406.9	483.2	532.6	544.6
72.5°	309.7	351.6	427.9	475.8	493.7
75°	248.3	296.2	372.5	423.4	435.4
77.5°	188.5	243.9	321.7	360.6	360.6
80°	134.6	193.0	264.8	282.8	285.7
82.5°	88.3	145.1	196.0	194.5	194.5
85°	50.9	94.3	116.7	113.7	113.7
87.5°	19.4	38.9	41.9	41.9	40.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)