

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: P311642

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P311642
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: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 4578.0 lumens
Efficiency: N/A
Efficacy: 106.2 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

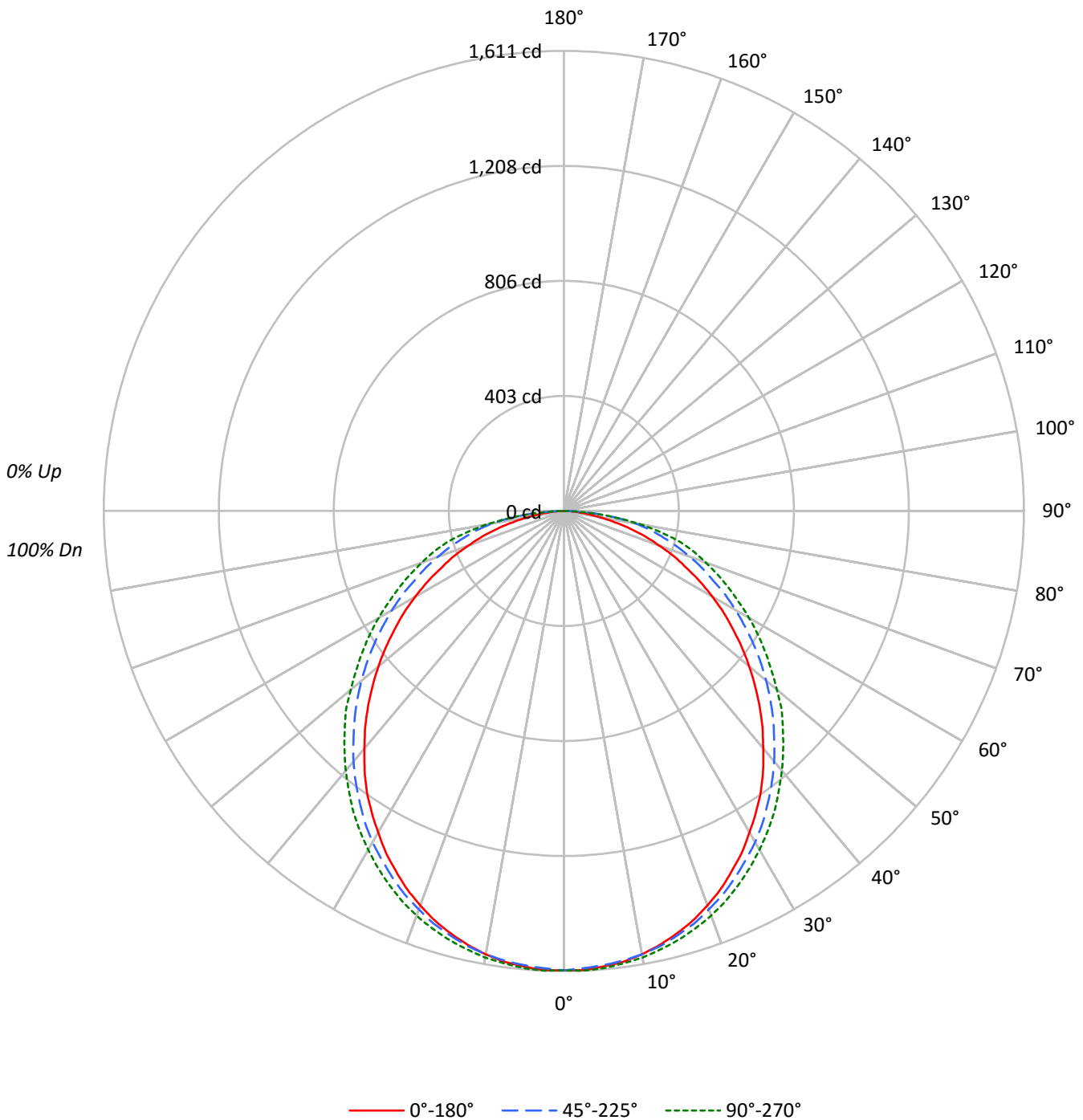
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311642

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P311642

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K

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°	2164	2164	2164
5°	2162	2156	2170
10°	2154	2154	2169
15°	2133	2143	2165
20°	2105	2126	2159
25°	2066	2105	2146
30°	2020	2081	2128
35°	1975	2047	2111
40°	1908	2013	2087
45°	1846	1973	2064
50°	1775	1936	2039
55°	1695	1900	2019
60°	1616	1870	2015
65°	1514	1838	2028
70°	1402	1848	2082
75°	1255	1882	2200
80°	1014	1994	2152
85°	763	1751	1706



TEST NUMBER: P311642

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.3	3.3
10°-20°	435.1	9.5
20°-30°	654.0	14.3
30°-40°	779.0	17.0
40°-50°	797.3	17.4
50°-60°	717.8	15.7
60°-70°	563.7	12.3
70°-80°	365.8	8.0
80°-90°	113.1	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°	1241.3	27.1
0°-40°	2020.3	44.1
0°-60°	3535.3	77.2
0°-90°	4578.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4578.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1608	1608	1608	1608	1608	
5°	1601	1604	1597	1605	1607	152
15°	1531	1536	1538	1552	1554	432
25°	1392	1403	1418	1441	1445	641
35°	1203	1217	1246	1277	1286	750
45°	970	993	1037	1076	1085	748
55°	723	755	810	852	861	648
65°	476	512	577	625	637	473
75°	241	288	362	412	423	255
85°	49	92	113	110	110	60
90°	0	0	0	0	0	



TEST NUMBER: P311642

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1608.3	1608.3	1608.3	1608.3	1608.3
2.5°	1609.7	1609.7	1602.5	1609.7	1611.2
5°	1601.0	1603.9	1596.6	1605.4	1606.8
7.5°	1592.3	1592.3	1587.9	1596.6	1598.1
10°	1576.3	1577.7	1576.3	1586.5	1587.9
12.5°	1555.9	1558.8	1560.3	1570.5	1571.9
15°	1531.2	1535.6	1538.5	1551.6	1554.5
17.5°	1503.6	1507.9	1515.2	1529.8	1532.7
20°	1470.1	1476.0	1484.7	1503.6	1507.9
22.5°	1433.8	1439.6	1454.1	1471.6	1478.9
25°	1391.6	1403.2	1417.8	1441.1	1445.4
27.5°	1349.4	1359.6	1378.5	1403.2	1409.1
30°	1300.0	1316.0	1339.3	1364.0	1369.8
32.5°	1252.0	1268.0	1295.6	1321.8	1329.1
35°	1202.6	1217.1	1246.2	1276.7	1285.5
37.5°	1145.9	1164.8	1196.8	1227.3	1236.0
40°	1086.2	1109.5	1145.9	1177.9	1188.0
42.5°	1029.5	1054.3	1090.6	1125.5	1137.1
45°	969.9	993.2	1036.8	1076.1	1084.8
47.5°	908.8	935.0	981.5	1020.8	1035.3
50°	847.8	875.4	924.8	965.6	974.3
52.5°	786.7	815.8	868.1	911.7	916.1
55°	722.7	754.7	810.0	852.1	860.9
57.5°	664.5	692.2	751.8	795.4	805.6
60°	600.6	631.1	695.1	735.8	748.9
62.5°	539.5	571.5	638.4	679.1	690.7
65°	475.5	511.9	577.3	625.3	636.9
67.5°	420.2	455.1	524.9	571.5	583.1
70°	356.3	395.5	469.7	517.7	529.3
72.5°	301.0	341.7	415.9	462.4	479.9
75°	241.4	287.9	362.1	411.5	423.2
77.5°	183.2	237.0	312.6	350.4	350.4
80°	130.9	187.6	257.4	274.8	277.7
82.5°	85.8	141.1	190.5	189.0	189.0
85°	49.4	91.6	113.4	110.5	110.5
87.5°	18.9	37.8	40.7	40.7	39.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)