

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: P311507

Luminaire Tested: **24FCZ2-45-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: P311507
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: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 3739.0 lumens
Efficiency: N/A
Efficacy: 99.4 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

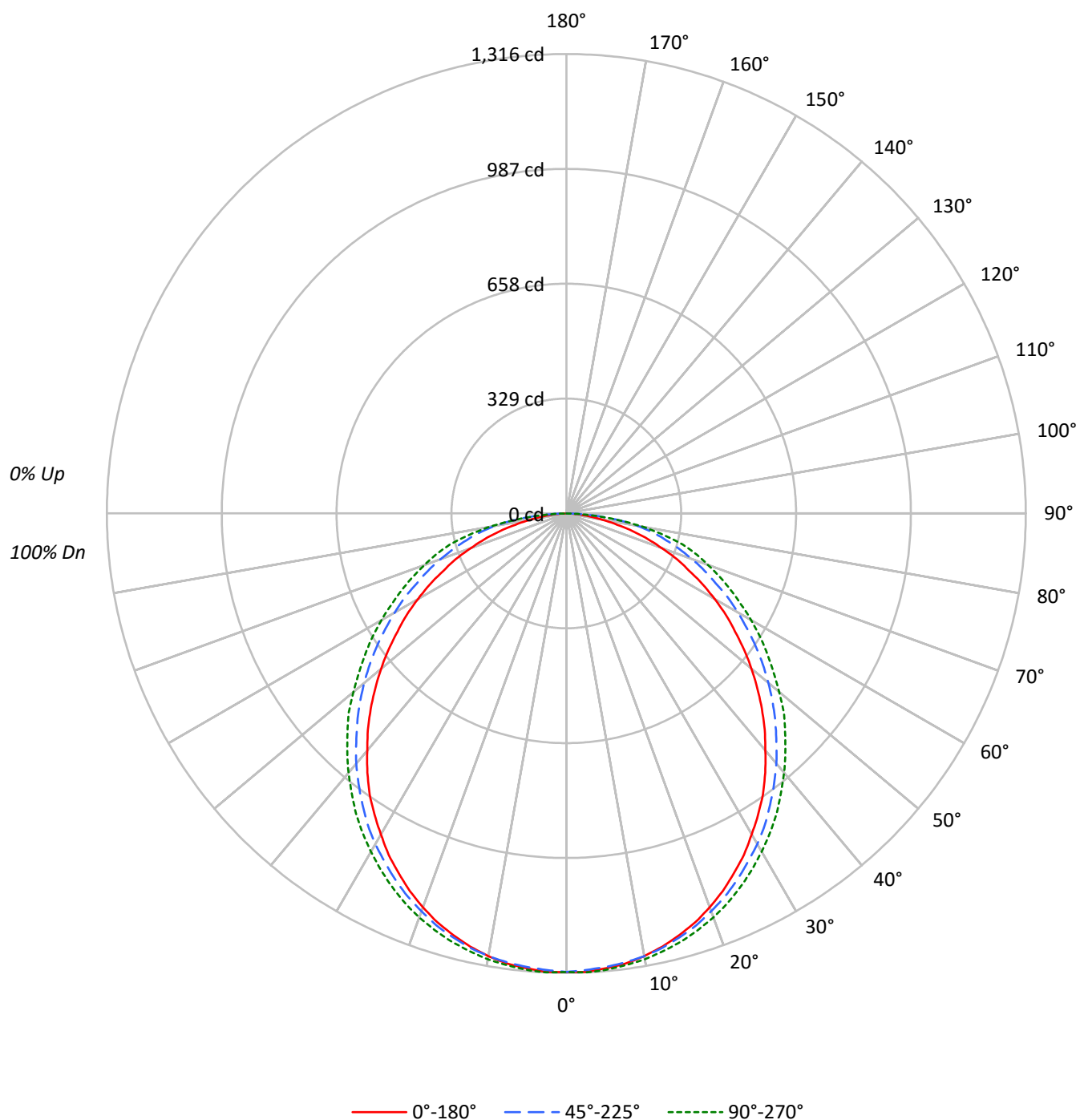
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311507

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P311507

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-2700K

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°	1767	1767	1767
5°	1766	1761	1772
10°	1759	1759	1772
15°	1742	1750	1768
20°	1719	1736	1763
25°	1687	1719	1753
30°	1650	1699	1738
35°	1613	1672	1725
40°	1558	1644	1704
45°	1507	1611	1686
50°	1449	1581	1666
55°	1385	1552	1649
60°	1320	1528	1646
65°	1237	1501	1656
70°	1145	1509	1701
75°	1025	1537	1797
80°	828	1629	1757
85°	624	1430	1394



TEST NUMBER: P311507

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.4	3.3
10°-20°	355.3	9.5
20°-30°	534.1	14.3
30°-40°	636.2	17.0
40°-50°	651.2	17.4
50°-60°	586.2	15.7
60°-70°	460.4	12.3
70°-80°	298.8	8.0
80°-90°	92.4	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°	1013.8	27.1
0°-40°	1650.0	44.1
0°-60°	2887.4	77.2
0°-90°	3739.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3739.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1314	1314	1314	1314	1314	
5°	1308	1310	1304	1311	1312	124
15°	1251	1254	1256	1267	1270	353
25°	1137	1146	1158	1177	1180	524
35°	982	994	1018	1043	1050	613
45°	792	811	847	879	886	611
55°	590	616	662	696	703	529
65°	388	418	472	511	520	387
75°	197	235	296	336	346	209
85°	40	75	93	90	90	49
90°	0	0	0	0	0	



TEST NUMBER: P311507

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1313.5	1313.5	1313.5	1313.5	1313.5
2.5°	1314.7	1314.7	1308.8	1314.7	1315.9
5°	1307.6	1310.0	1304.0	1311.2	1312.3
7.5°	1300.5	1300.5	1296.9	1304.0	1305.2
10°	1287.4	1288.6	1287.4	1295.7	1296.9
12.5°	1270.8	1273.2	1274.3	1282.7	1283.8
15°	1250.6	1254.2	1256.5	1267.2	1269.6
17.5°	1228.0	1231.6	1237.5	1249.4	1251.8
20°	1200.7	1205.5	1212.6	1228.0	1231.6
22.5°	1171.0	1175.8	1187.6	1201.9	1207.8
25°	1136.6	1146.1	1158.0	1177.0	1180.5
27.5°	1102.1	1110.4	1125.9	1146.1	1150.8
30°	1061.8	1074.8	1093.8	1114.0	1118.8
32.5°	1022.6	1035.6	1058.2	1079.6	1085.5
35°	982.2	994.1	1017.8	1042.8	1049.9
37.5°	935.9	951.3	977.4	1002.4	1009.5
40°	887.2	906.2	935.9	962.0	970.3
42.5°	840.9	861.0	890.7	919.2	928.7
45°	792.2	811.2	846.8	878.9	886.0
47.5°	742.3	763.7	801.7	833.7	845.6
50°	692.4	715.0	755.3	788.6	795.7
52.5°	642.5	666.3	709.0	744.7	748.2
55°	590.3	616.4	661.5	696.0	703.1
57.5°	542.8	565.3	614.0	649.6	658.0
60°	490.5	515.4	567.7	600.9	611.6
62.5°	440.6	466.7	521.4	554.6	564.1
65°	388.4	418.1	471.5	510.7	520.2
67.5°	343.2	371.7	428.7	466.7	476.2
70°	291.0	323.0	383.6	422.8	432.3
72.5°	245.8	279.1	339.7	377.7	391.9
75°	197.1	235.2	295.7	336.1	345.6
77.5°	149.6	193.6	255.3	286.2	286.2
80°	106.9	153.2	210.2	224.5	226.8
82.5°	70.1	115.2	155.6	154.4	154.4
85°	40.4	74.8	92.6	90.3	90.3
87.5°	15.4	30.9	33.3	33.3	32.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)