

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: P314034

Luminaire Tested: **24FCZ2-50-UNV-L83050-CP187-W2A-U-5000K**

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: P314034
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-L83050-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 4536.0 lumens
Efficiency: N/A
Efficacy: 101.2 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

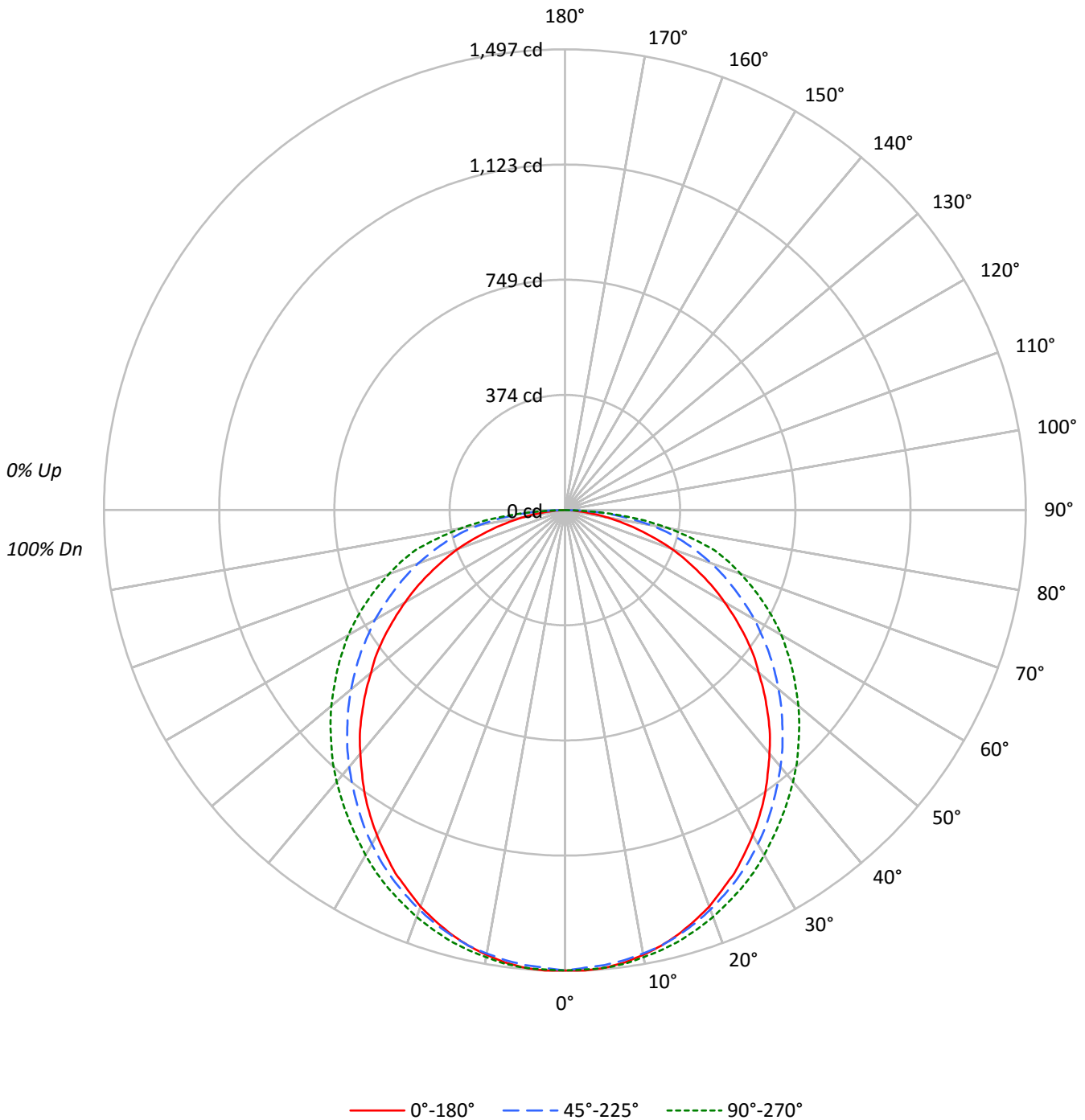
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314034

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P314034

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP187-W2A-U-5000K

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°	2013	2013	2013
5°	2016	2004	2016
10°	2005	1999	2015
15°	1987	1992	2017
20°	1963	1978	2015
25°	1933	1964	2013
30°	1896	1948	2011
35°	1859	1928	2012
40°	1816	1914	2025
45°	1773	1901	2042
50°	1720	1896	2073
55°	1677	1899	2115
60°	1612	1915	2187
65°	1538	1936	2266
70°	1456	1995	2392
75°	1299	2081	2613
80°	1108	2204	2670
85°	790	2184	2555



TEST NUMBER: P314034

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.6	3.1
10°-20°	404.8	8.9
20°-30°	611.4	13.5
30°-40°	736.9	16.2
40°-50°	773.6	17.1
50°-60°	723.8	16.0
60°-70°	597.7	13.2
70°-80°	407.3	9.0
80°-90°	138.9	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°	1157.8	25.5
0°-40°	1894.7	41.8
0°-60°	3392.1	74.8
0°-90°	4536.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4536.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1493	1491	1484	1493	1493	142
15°	1427	1428	1430	1445	1448	402
25°	1302	1308	1323	1348	1356	599
35°	1132	1144	1174	1213	1225	707
45°	932	951	999	1054	1073	718
55°	715	744	810	876	902	638
65°	483	524	608	685	712	479
75°	250	307	400	476	503	266
85°	51	101	142	160	166	64
90°	0	0	0	0	0	



TEST NUMBER: P314034

CATALOG NUMBER: 24FCZ2-50-UNV-L83050-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1495.9	1495.9	1495.9	1495.9	1495.9
2.5°	1497.4	1495.9	1488.4	1495.9	1494.4
5°	1492.9	1491.4	1483.9	1492.9	1492.9
7.5°	1482.4	1482.4	1474.9	1485.4	1486.9
10°	1467.3	1467.3	1462.8	1474.9	1474.9
12.5°	1449.3	1449.3	1449.3	1461.3	1462.8
15°	1426.7	1428.2	1429.7	1444.8	1447.8
17.5°	1399.6	1402.6	1407.1	1425.2	1428.2
20°	1371.0	1374.0	1381.6	1402.6	1407.1
22.5°	1334.9	1342.4	1353.0	1377.0	1381.6
25°	1301.8	1307.8	1322.9	1348.4	1356.0
27.5°	1261.2	1270.2	1289.8	1316.8	1327.4
30°	1220.5	1229.6	1253.6	1285.2	1294.3
32.5°	1176.9	1190.4	1216.0	1249.1	1259.7
35°	1131.7	1143.8	1173.9	1213.0	1225.0
37.5°	1082.1	1098.6	1131.7	1173.9	1188.9
40°	1033.9	1052.0	1089.6	1134.7	1152.8
42.5°	985.8	1003.8	1045.9	1097.1	1115.2
45°	931.6	951.1	999.3	1053.5	1073.0
47.5°	877.4	901.5	954.1	1011.3	1032.4
50°	821.7	848.8	906.0	966.2	990.3
52.5°	772.0	797.6	857.8	922.5	945.1
55°	714.9	743.5	809.7	875.9	901.5
57.5°	656.2	687.8	758.5	830.7	856.3
60°	599.0	633.6	711.8	784.1	812.7
62.5°	543.3	577.9	659.2	734.4	763.0
65°	483.1	523.7	608.0	684.8	711.8
67.5°	425.9	469.5	558.3	633.6	660.7
70°	370.2	412.4	507.2	580.9	608.0
72.5°	310.0	358.2	453.0	529.7	558.3
75°	249.8	307.0	400.3	475.6	502.7
77.5°	194.1	252.8	346.1	407.8	421.4
80°	143.0	203.2	284.4	328.1	344.6
82.5°	91.8	152.0	216.7	248.3	261.9
85°	51.2	100.8	141.5	159.5	165.5
87.5°	21.1	43.6	57.2	64.7	64.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)