

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: P311553

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-3000K**

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: P311553
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 4265.0 lumens
Efficiency: N/A
Efficacy: 111.9 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

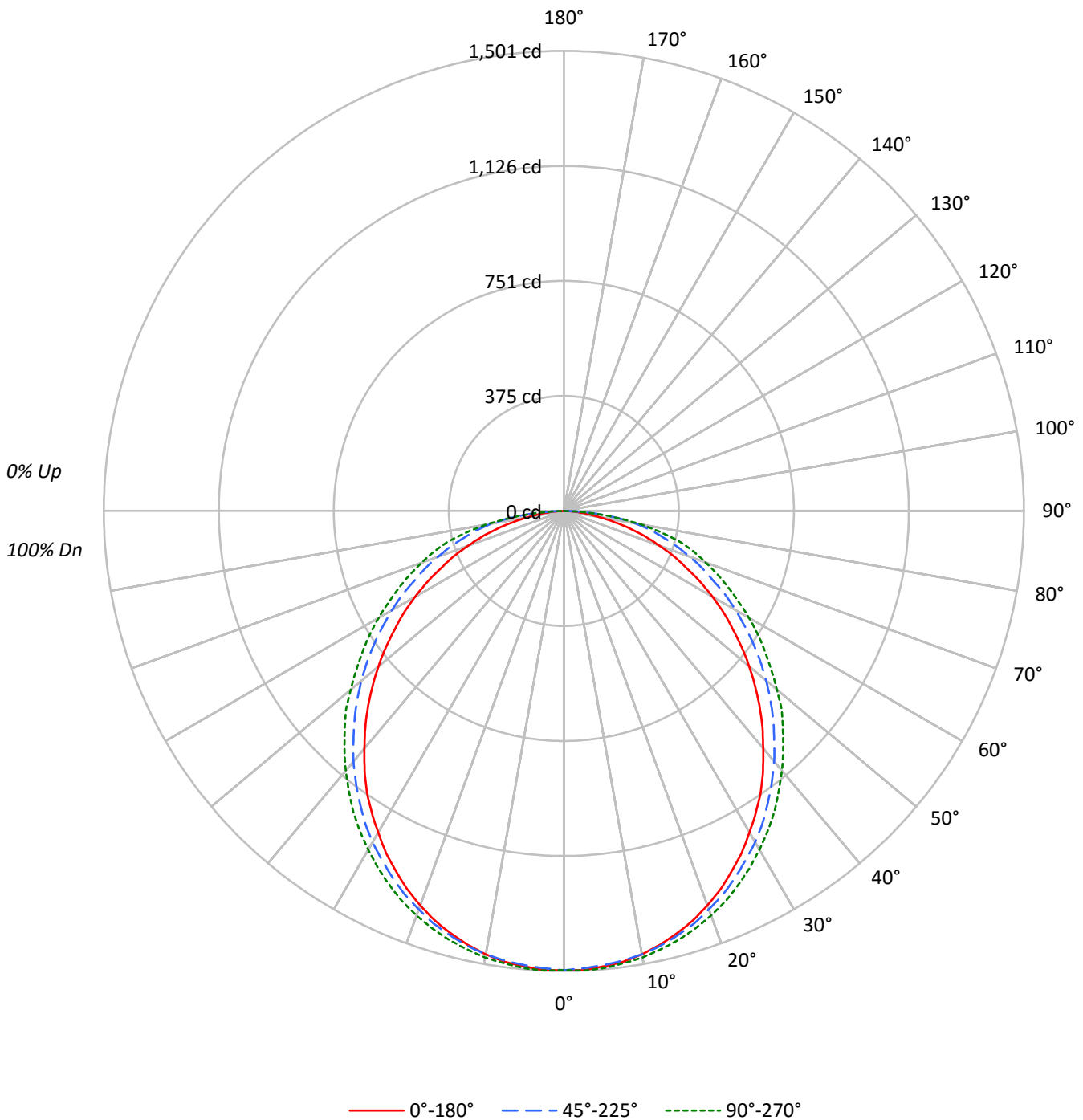
Input Watts (W): 38.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	2016	2016	2016
5°	2014	2009	2022
10°	2006	2006	2021
15°	1987	1997	2017
20°	1961	1981	2011
25°	1925	1961	1999
30°	1882	1938	1983
35°	1840	1907	1967
40°	1777	1875	1944
45°	1719	1838	1923
50°	1653	1804	1900
55°	1579	1770	1881
60°	1506	1743	1877
65°	1410	1712	1889
70°	1306	1721	1940
75°	1169	1753	2049
80°	945	1858	2005
85°	712	1632	1590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.8	3.3
10°-20°	405.3	9.5
20°-30°	609.3	14.3
30°-40°	725.7	17.0
40°-50°	742.8	17.4
50°-60°	668.7	15.7
60°-70°	525.1	12.3
70°-80°	340.8	8.0
80°-90°	105.4	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°	1156.4	27.1
0°-40°	1882.2	44.1
0°-60°	3293.6	77.2
0°-90°	4265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4265.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1498	1498	1498	1498	1498	
5°	1492	1494	1488	1496	1497	142
15°	1426	1431	1433	1446	1448	402
25°	1296	1307	1321	1342	1347	597
35°	1120	1134	1161	1189	1198	699
45°	904	925	966	1002	1011	697
55°	673	703	755	794	802	604
65°	443	477	538	582	593	441
75°	225	268	337	383	394	238
85°	46	85	106	103	103	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1498.3	1498.3	1498.3	1498.3	1498.3
2.5°	1499.7	1499.7	1492.9	1499.7	1501.0
5°	1491.5	1494.3	1487.5	1495.6	1497.0
7.5°	1483.4	1483.4	1479.4	1487.5	1488.8
10°	1468.5	1469.9	1468.5	1478.0	1479.4
12.5°	1449.6	1452.3	1453.6	1463.1	1464.5
15°	1426.5	1430.6	1433.3	1445.5	1448.2
17.5°	1400.8	1404.8	1411.6	1425.2	1427.9
20°	1369.6	1375.0	1383.2	1400.8	1404.8
22.5°	1335.8	1341.2	1354.7	1371.0	1377.8
25°	1296.5	1307.3	1320.9	1342.5	1346.6
27.5°	1257.2	1266.7	1284.3	1307.3	1312.7
30°	1211.1	1226.0	1247.7	1270.7	1276.1
32.5°	1166.4	1181.3	1207.1	1231.4	1238.2
35°	1120.4	1133.9	1161.0	1189.4	1197.6
37.5°	1067.5	1085.1	1114.9	1143.4	1151.5
40°	1012.0	1033.7	1067.5	1097.3	1106.8
42.5°	959.1	982.2	1016.0	1048.6	1059.4
45°	903.6	925.3	965.9	1002.5	1010.6
47.5°	846.7	871.1	914.4	951.0	964.6
50°	789.8	815.5	861.6	899.5	907.7
52.5°	732.9	760.0	808.8	849.4	853.5
55°	673.3	703.1	754.6	793.9	802.0
57.5°	619.1	644.8	700.4	741.0	750.5
60°	559.5	587.9	647.6	685.5	697.7
62.5°	502.6	532.4	594.7	632.7	643.5
65°	443.0	476.9	537.8	582.5	593.4
67.5°	391.5	424.0	489.1	532.4	543.2
70°	331.9	368.5	437.6	482.3	493.1
72.5°	280.4	318.4	387.5	430.8	447.1
75°	224.9	268.2	337.3	383.4	394.2
77.5°	170.7	220.8	291.3	326.5	326.5
80°	121.9	174.8	239.8	256.0	258.8
82.5°	79.9	131.4	177.5	176.1	176.1
85°	46.1	85.3	105.7	103.0	103.0
87.5°	17.6	35.2	37.9	37.9	36.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)