

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: P311555

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-4000K**

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: P311555
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 4510.0 lumens
Efficiency: N/A
Efficacy: 116.2 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

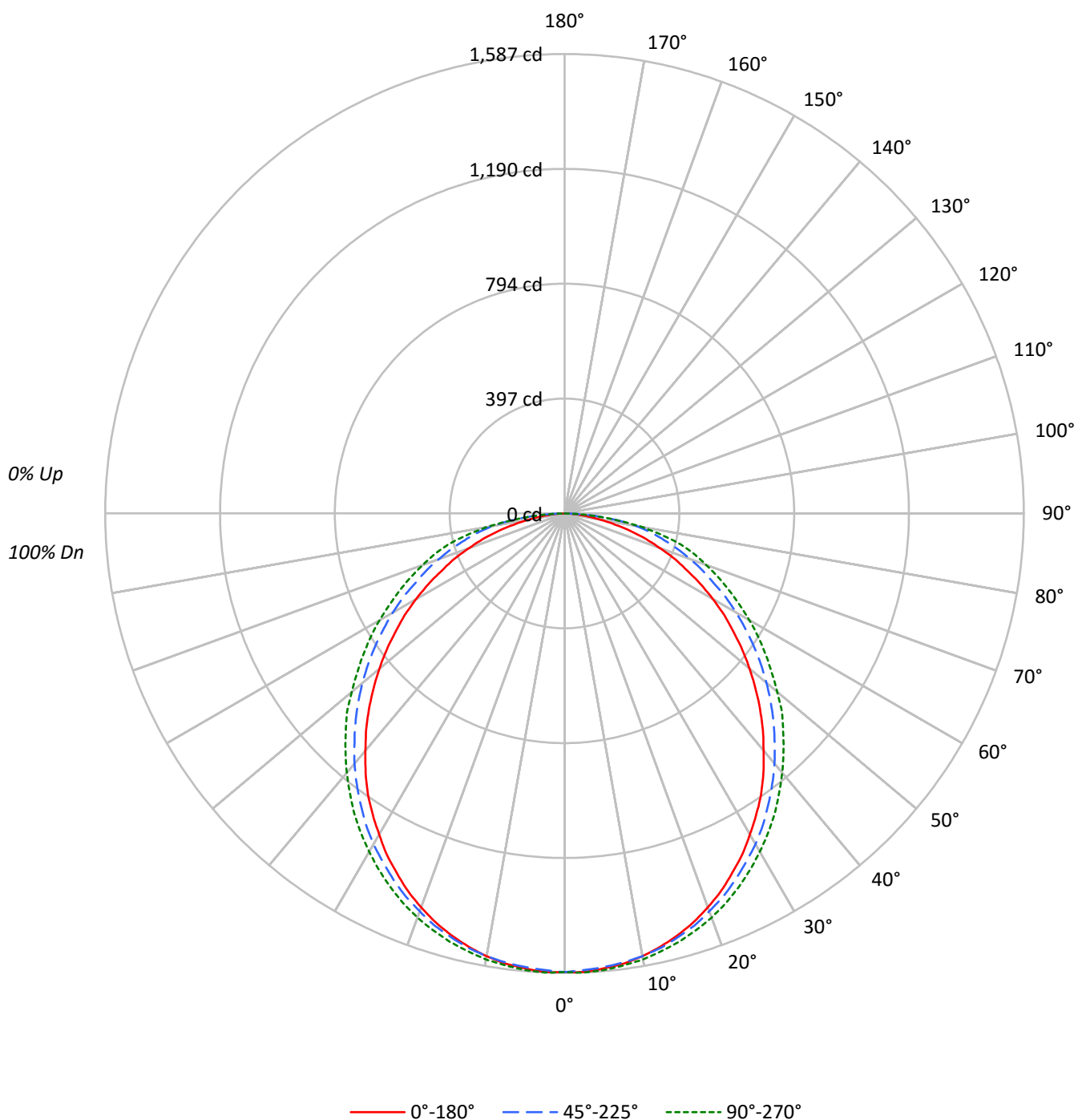
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	2132	2132	2132
5°	2130	2124	2138
10°	2122	2122	2137
15°	2101	2111	2133
20°	2074	2094	2127
25°	2035	2074	2114
30°	1990	2050	2097
35°	1946	2017	2080
40°	1880	1983	2056
45°	1818	1944	2034
50°	1748	1907	2009
55°	1670	1872	1989
60°	1592	1843	1985
65°	1491	1811	1998
70°	1381	1820	2051
75°	1236	1854	2167
80°	999	1965	2120
85°	752	1724	1681



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	3.3
10°-20°	428.6	9.5
20°-30°	644.3	14.3
30°-40°	767.4	17.0
40°-50°	785.4	17.4
50°-60°	707.1	15.7
60°-70°	555.3	12.3
70°-80°	360.4	8.0
80°-90°	111.5	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°	1222.8	27.1
0°-40°	1990.3	44.1
0°-60°	3482.8	77.2
0°-90°	4510.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4510.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1584	1584	1584	1584	1584	
5°	1577	1580	1573	1582	1583	150
15°	1508	1513	1516	1528	1531	425
25°	1371	1382	1397	1420	1424	632
35°	1185	1199	1228	1258	1266	739
45°	956	978	1021	1060	1069	737
55°	712	744	798	840	848	638
65°	468	504	569	616	628	466
75°	238	284	357	405	417	252
85°	49	90	112	109	109	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1584.4	1584.4	1584.4	1584.4	1584.4
2.5°	1585.8	1585.8	1578.7	1585.8	1587.3
5°	1577.2	1580.1	1572.9	1581.5	1583.0
7.5°	1568.6	1568.6	1564.3	1572.9	1574.4
10°	1552.9	1554.3	1552.9	1562.9	1564.3
12.5°	1532.8	1535.7	1537.1	1547.1	1548.6
15°	1508.5	1512.8	1515.6	1528.5	1531.4
17.5°	1481.2	1485.5	1492.7	1507.0	1509.9
20°	1448.3	1454.0	1462.6	1481.2	1485.5
22.5°	1412.5	1418.2	1432.5	1449.7	1456.9
25°	1370.9	1382.4	1396.7	1419.7	1423.9
27.5°	1329.4	1339.4	1358.1	1382.4	1388.1
30°	1280.7	1296.5	1319.4	1343.7	1349.5
32.5°	1233.4	1249.2	1276.4	1302.2	1309.3
35°	1184.7	1199.0	1227.7	1257.8	1266.4
37.5°	1128.8	1147.5	1179.0	1209.1	1217.7
40°	1070.1	1093.0	1128.8	1160.4	1170.4
42.5°	1014.2	1038.6	1074.4	1108.8	1120.2
45°	955.5	978.4	1021.4	1060.1	1068.7
47.5°	895.3	921.1	967.0	1005.6	1020.0
50°	835.2	862.4	911.1	951.2	959.8
52.5°	775.0	803.7	855.2	898.2	902.5
55°	712.0	743.5	797.9	839.5	848.1
57.5°	654.7	681.9	740.6	783.6	793.6
60°	591.6	621.7	684.8	724.9	737.8
62.5°	531.5	563.0	628.9	669.0	680.5
65°	468.4	504.3	568.7	616.0	627.5
67.5°	414.0	448.4	517.1	563.0	574.4
70°	351.0	389.7	462.7	510.0	521.4
72.5°	296.5	336.6	409.7	455.5	472.7
75°	237.8	283.6	356.7	405.4	416.9
77.5°	180.5	233.5	308.0	345.2	345.2
80°	128.9	184.8	253.6	270.8	273.6
82.5°	84.5	139.0	187.7	186.2	186.2
85°	48.7	90.3	111.7	108.9	108.9
87.5°	18.6	37.2	40.1	40.1	38.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)