

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: P314365

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-S-CA08-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: P314365
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-L83050-S-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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

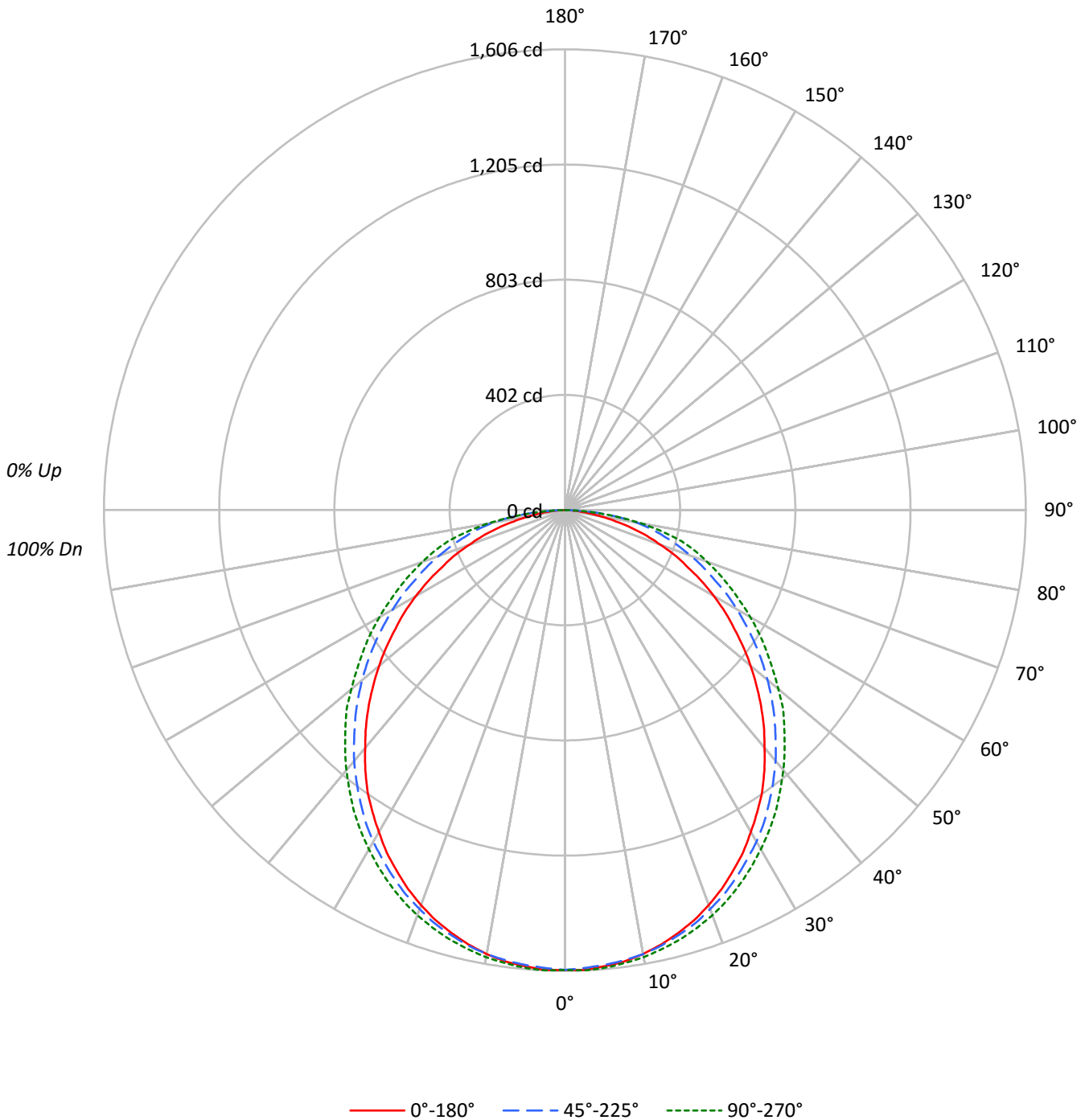
Lumens per Lamp: N/A
Luminaire Lumens: 4563.0 lumens
Efficiency: N/A
Efficacy: 119.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38.3
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°	2157	2157	2157
5°	2155	2149	2163
10°	2147	2147	2162
15°	2126	2136	2158
20°	2098	2119	2152
25°	2059	2098	2139
30°	2013	2074	2121
35°	1969	2040	2104
40°	1902	2006	2080
45°	1839	1966	2057
50°	1769	1930	2033
55°	1690	1894	2013
60°	1611	1864	2009
65°	1509	1832	2021
70°	1397	1841	2076
75°	1251	1876	2193
80°	1010	1987	2145
85°	761	1746	1701



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.8	3.3
10°-20°	433.6	9.5
20°-30°	651.8	14.3
30°-40°	776.4	17.0
40°-50°	794.6	17.4
50°-60°	715.4	15.7
60°-70°	561.8	12.3
70°-80°	364.6	8.0
80°-90°	112.8	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°	1237.2	27.1
0°-40°	2013.7	44.1
0°-60°	3523.7	77.2
0°-90°	4563.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4563.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1603	1603	1603	1603	1603	
5°	1596	1599	1591	1600	1602	152
15°	1526	1530	1533	1546	1549	430
25°	1387	1399	1413	1436	1441	639
35°	1199	1213	1242	1273	1281	748
45°	967	990	1033	1072	1081	745
55°	720	752	807	849	858	646
65°	474	510	575	623	635	472
75°	241	287	361	410	422	255
85°	49	91	113	110	110	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1603.0	1603.0	1603.0	1603.0	1603.0
2.5°	1604.5	1604.5	1597.2	1604.5	1605.9
5°	1595.8	1598.7	1591.4	1600.1	1601.6
7.5°	1587.1	1587.1	1582.7	1591.4	1592.9
10°	1571.1	1572.6	1571.1	1581.3	1582.7
12.5°	1550.8	1553.7	1555.2	1565.3	1566.8
15°	1526.2	1530.5	1533.4	1546.5	1549.4
17.5°	1498.7	1503.0	1510.3	1524.7	1527.6
20°	1465.3	1471.1	1479.8	1498.7	1503.0
22.5°	1429.1	1434.9	1449.4	1466.8	1474.0
25°	1387.1	1398.6	1413.1	1436.3	1440.7
27.5°	1345.0	1355.2	1374.0	1398.6	1404.4
30°	1295.7	1311.7	1334.9	1359.5	1365.3
32.5°	1247.9	1263.9	1291.4	1317.5	1324.7
35°	1198.6	1213.1	1242.1	1272.6	1281.2
37.5°	1142.1	1161.0	1192.8	1223.3	1232.0
40°	1082.7	1105.9	1142.1	1174.0	1184.1
42.5°	1026.2	1050.8	1087.0	1121.8	1133.4
45°	966.7	989.9	1033.4	1072.5	1081.2
47.5°	905.9	931.9	978.3	1017.5	1032.0
50°	845.0	872.5	921.8	962.4	971.1
52.5°	784.1	813.1	865.3	908.8	913.1
55°	720.3	752.2	807.3	849.3	858.0
57.5°	662.4	689.9	749.3	792.8	803.0
60°	598.6	629.0	692.8	733.4	746.4
62.5°	537.7	569.6	636.3	676.9	688.5
65°	473.9	510.2	575.4	623.2	634.8
67.5°	418.9	453.7	523.2	569.6	581.2
70°	355.1	394.2	468.1	516.0	527.6
72.5°	300.0	340.6	414.5	460.9	478.3
75°	240.6	287.0	360.9	410.2	421.8
77.5°	182.6	236.2	311.6	349.3	349.3
80°	130.4	187.0	256.5	273.9	276.8
82.5°	85.5	140.6	189.9	188.4	188.4
85°	49.3	91.3	113.1	110.2	110.2
87.5°	18.8	37.7	40.6	40.6	39.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)