

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: P311565

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311565
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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

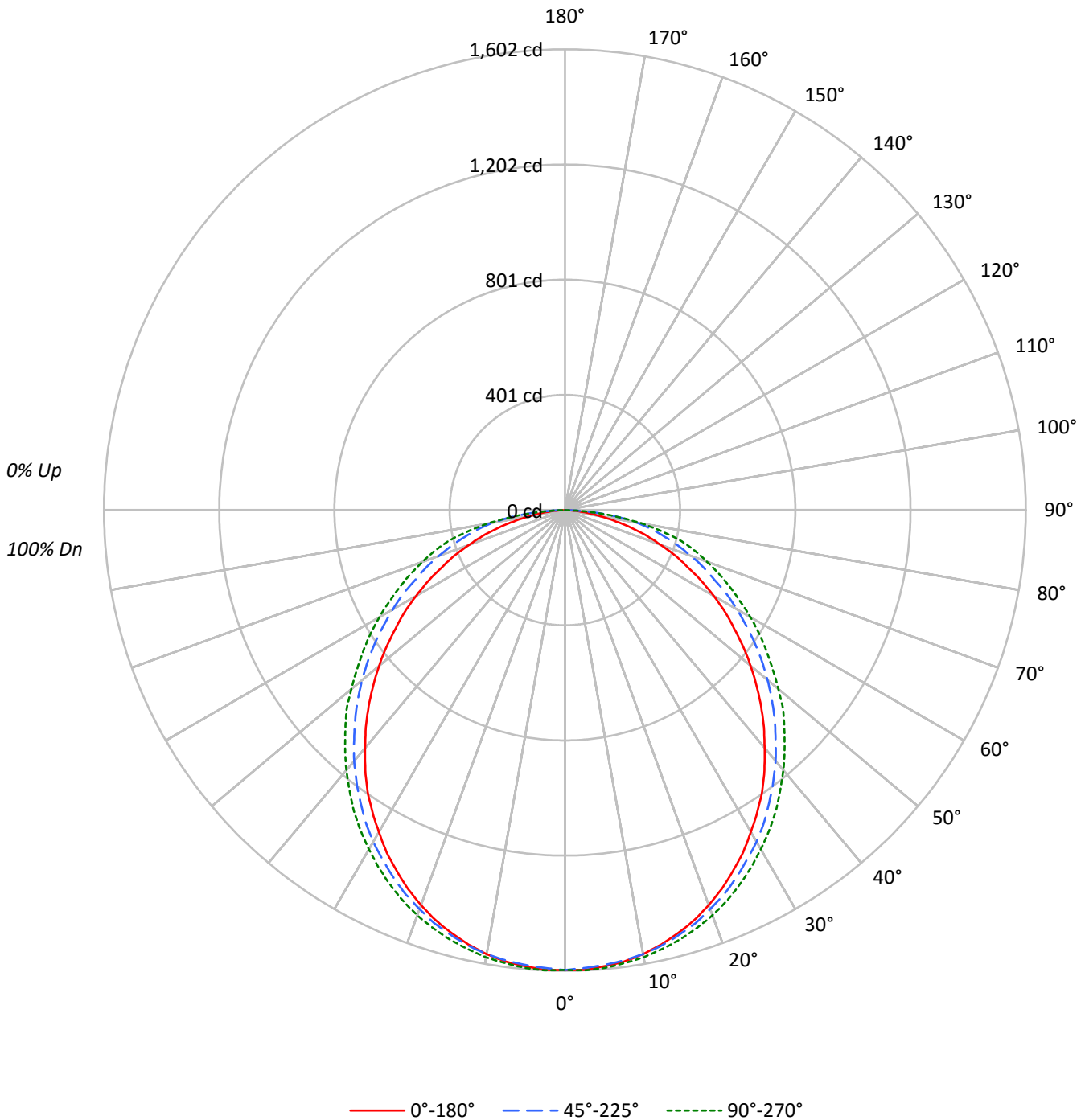
Lumens per Lamp: N/A
Luminaire Lumens: 4552.0 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 39.1
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°	2152	2152	2152
5°	2150	2144	2158
10°	2141	2141	2157
15°	2121	2131	2153
20°	2093	2114	2147
25°	2054	2093	2134
30°	2008	2069	2116
35°	1964	2035	2099
40°	1897	2001	2075
45°	1835	1962	2052
50°	1765	1925	2028
55°	1686	1889	2008
60°	1607	1860	2004
65°	1505	1827	2016
70°	1393	1837	2070
75°	1248	1871	2188
80°	1008	1983	2140
85°	760	1741	1697



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.4	3.3
10°-20°	432.6	9.5
20°-30°	650.3	14.3
30°-40°	774.6	17.0
40°-50°	792.7	17.4
50°-60°	713.7	15.7
60°-70°	560.5	12.3
70°-80°	363.8	8.0
80°-90°	112.5	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°	1234.2	27.1
0°-40°	2008.8	44.1
0°-60°	3515.3	77.2
0°-90°	4552.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4552.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1599	1599	1599	1599	1599	
5°	1592	1595	1588	1596	1598	151
15°	1522	1527	1530	1543	1546	429
25°	1384	1395	1410	1433	1437	637
35°	1196	1210	1239	1270	1278	746
45°	964	988	1031	1070	1079	744
55°	719	750	805	847	856	644
65°	473	509	574	622	633	471
75°	240	286	360	409	421	254
85°	49	91	113	110	110	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1599.1	1599.1	1599.1	1599.1	1599.1
2.5°	1600.6	1600.6	1593.4	1600.6	1602.0
5°	1591.9	1594.8	1587.6	1596.3	1597.7
7.5°	1583.2	1583.2	1578.9	1587.6	1589.0
10°	1567.3	1568.8	1567.3	1577.5	1578.9
12.5°	1547.1	1550.0	1551.4	1561.6	1563.0
15°	1522.5	1526.9	1529.7	1542.8	1545.6
17.5°	1495.0	1499.4	1506.6	1521.1	1524.0
20°	1461.8	1467.6	1476.2	1495.0	1499.4
22.5°	1425.6	1431.4	1445.9	1463.2	1470.5
25°	1383.7	1395.3	1409.7	1432.9	1437.2
27.5°	1341.8	1351.9	1370.7	1395.3	1401.1
30°	1292.6	1308.5	1331.7	1356.2	1362.0
32.5°	1244.9	1260.8	1288.3	1314.3	1321.5
35°	1195.7	1210.2	1239.1	1269.5	1278.2
37.5°	1139.4	1158.2	1190.0	1220.3	1229.0
40°	1080.1	1103.2	1139.4	1171.2	1181.3
42.5°	1023.7	1048.3	1084.4	1119.1	1130.7
45°	964.4	987.5	1030.9	1070.0	1078.6
47.5°	903.7	929.7	976.0	1015.0	1029.5
50°	843.0	870.4	919.6	960.1	968.7
52.5°	782.2	811.1	863.2	906.6	910.9
55°	718.6	750.4	805.4	847.3	856.0
57.5°	660.8	688.2	747.5	790.9	801.0
60°	597.1	627.5	691.1	731.6	744.6
62.5°	536.4	568.2	634.7	675.2	686.8
65°	472.8	509.0	574.0	621.7	633.3
67.5°	417.9	452.6	522.0	568.2	579.8
70°	354.2	393.3	467.0	514.7	526.3
72.5°	299.3	339.8	413.5	459.8	477.1
75°	240.0	286.3	360.0	409.2	420.8
77.5°	182.2	235.7	310.9	348.5	348.5
80°	130.1	186.5	255.9	273.3	276.2
82.5°	85.3	140.3	189.4	188.0	188.0
85°	49.2	91.1	112.8	109.9	109.9
87.5°	18.8	37.6	40.5	40.5	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)