

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: P311569

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-6500K**

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: P311569
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 6500K 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: 4684.0 lumens
Efficiency: N/A
Efficacy: 116.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

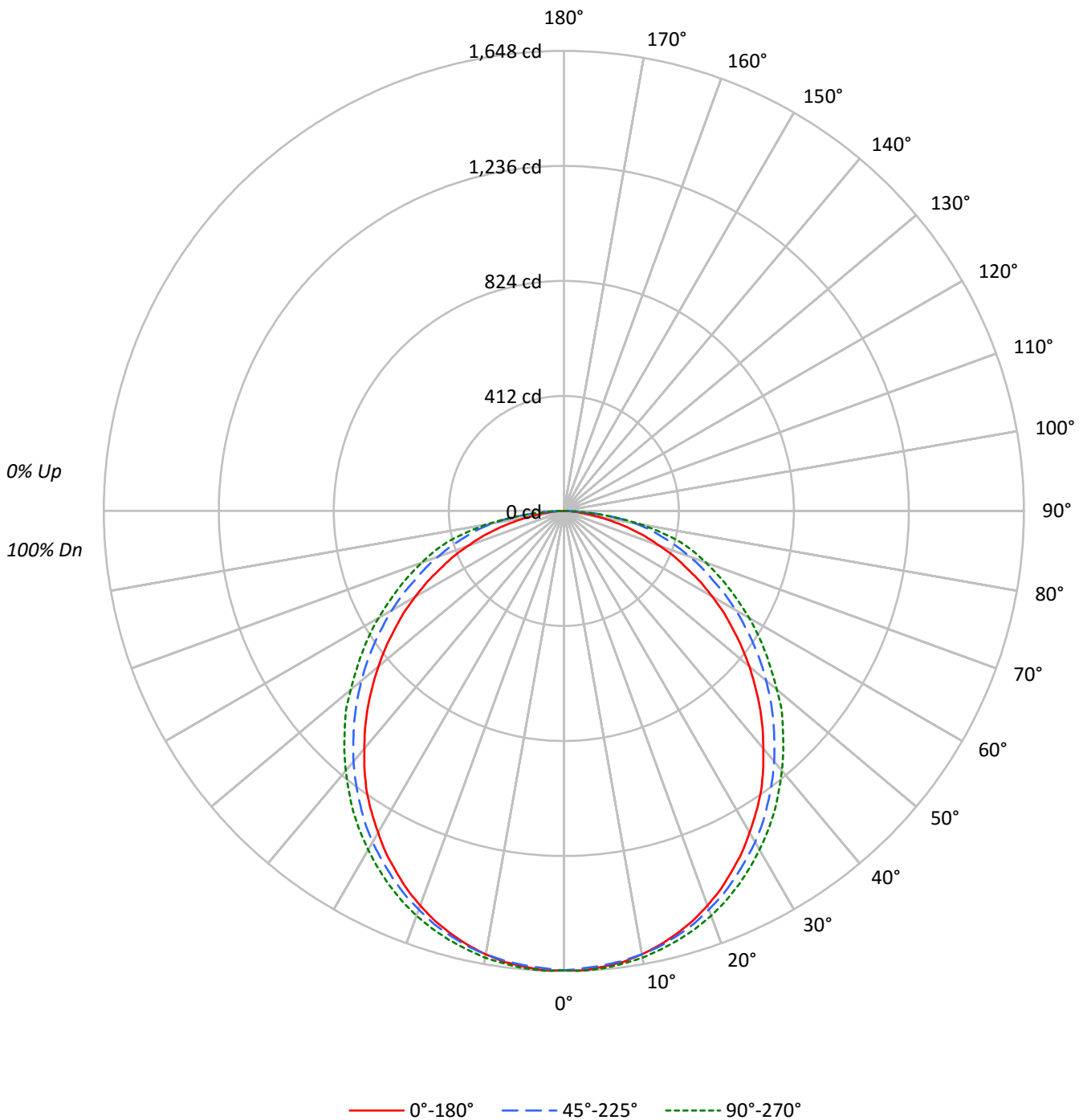
Input Watts (W): 40.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2214	2214	2214
5°	2212	2206	2220
10°	2203	2203	2220
15°	2182	2193	2215
20°	2154	2175	2209
25°	2114	2154	2196
30°	2066	2129	2177
35°	2021	2094	2160
40°	1952	2059	2135
45°	1888	2019	2112
50°	1816	1981	2087
55°	1734	1944	2066
60°	1654	1914	2062
65°	1549	1881	2075
70°	1434	1891	2131
75°	1284	1926	2251
80°	1038	2040	2202
85°	781	1791	1746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.8	3.3
10°-20°	445.1	9.5
20°-30°	669.1	14.3
30°-40°	797.0	17.0
40°-50°	815.7	17.4
50°-60°	734.4	15.7
60°-70°	576.7	12.3
70°-80°	374.3	8.0
80°-90°	115.8	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°	1270.0	27.1
0°-40°	2067.1	44.1
0°-60°	3617.2	77.2
0°-90°	4684.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4684.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1646	1646	1646	1646	1646	
5°	1638	1641	1634	1642	1644	156
15°	1567	1571	1574	1588	1590	442
25°	1424	1436	1451	1474	1479	656
35°	1230	1245	1275	1306	1315	768
45°	992	1016	1061	1101	1110	765
55°	739	772	829	872	881	663
65°	486	524	591	640	652	484
75°	247	295	370	421	433	261
85°	51	94	116	113	113	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1645.5	1645.5	1645.5	1645.5	1645.5
2.5°	1647.0	1647.0	1639.6	1647.0	1648.5
5°	1638.1	1641.1	1633.6	1642.5	1644.0
7.5°	1629.2	1629.2	1624.7	1633.6	1635.1
10°	1612.8	1614.3	1612.8	1623.2	1624.7
12.5°	1592.0	1594.9	1596.4	1606.8	1608.3
15°	1566.7	1571.1	1574.1	1587.5	1590.5
17.5°	1538.4	1542.9	1550.3	1565.2	1568.2
20°	1504.2	1510.1	1519.1	1538.4	1542.9
22.5°	1467.0	1472.9	1487.8	1505.7	1513.1
25°	1423.8	1435.7	1450.6	1474.4	1478.9
27.5°	1380.7	1391.1	1410.4	1435.7	1441.7
30°	1330.1	1346.5	1370.3	1395.6	1401.5
32.5°	1281.0	1297.4	1325.6	1352.4	1359.9
35°	1230.4	1245.3	1275.1	1306.3	1315.2
37.5°	1172.4	1191.7	1224.5	1255.7	1264.6
40°	1111.4	1135.2	1172.4	1205.1	1215.5
42.5°	1053.4	1078.7	1115.9	1151.6	1163.5
45°	992.4	1016.2	1060.8	1101.0	1109.9
47.5°	929.9	956.7	1004.3	1044.4	1059.3
50°	867.4	895.7	946.2	987.9	996.8
52.5°	804.9	834.7	888.2	932.9	937.3
55°	739.4	772.2	828.7	871.9	880.8
57.5°	679.9	708.2	769.2	813.8	824.2
60°	614.5	645.7	711.2	752.8	766.2
62.5°	552.0	584.7	653.1	694.8	706.7
65°	486.5	523.7	590.7	639.8	651.7
67.5°	430.0	465.7	537.1	584.7	596.6
70°	364.5	404.7	480.6	529.7	541.6
72.5°	308.0	349.6	425.5	473.1	491.0
75°	247.0	294.6	370.5	421.1	433.0
77.5°	187.5	242.5	319.9	358.6	358.6
80°	133.9	191.9	263.3	281.2	284.2
82.5°	87.8	144.3	194.9	193.4	193.4
85°	50.6	93.7	116.0	113.1	113.1
87.5°	19.3	38.7	41.7	41.7	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)