

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: P314328

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CP125-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: P314328
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: 24FCZ2-45HE-UNV-L83050-S-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 4462.0 lumens
Efficiency: N/A
Efficacy: 125.7 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

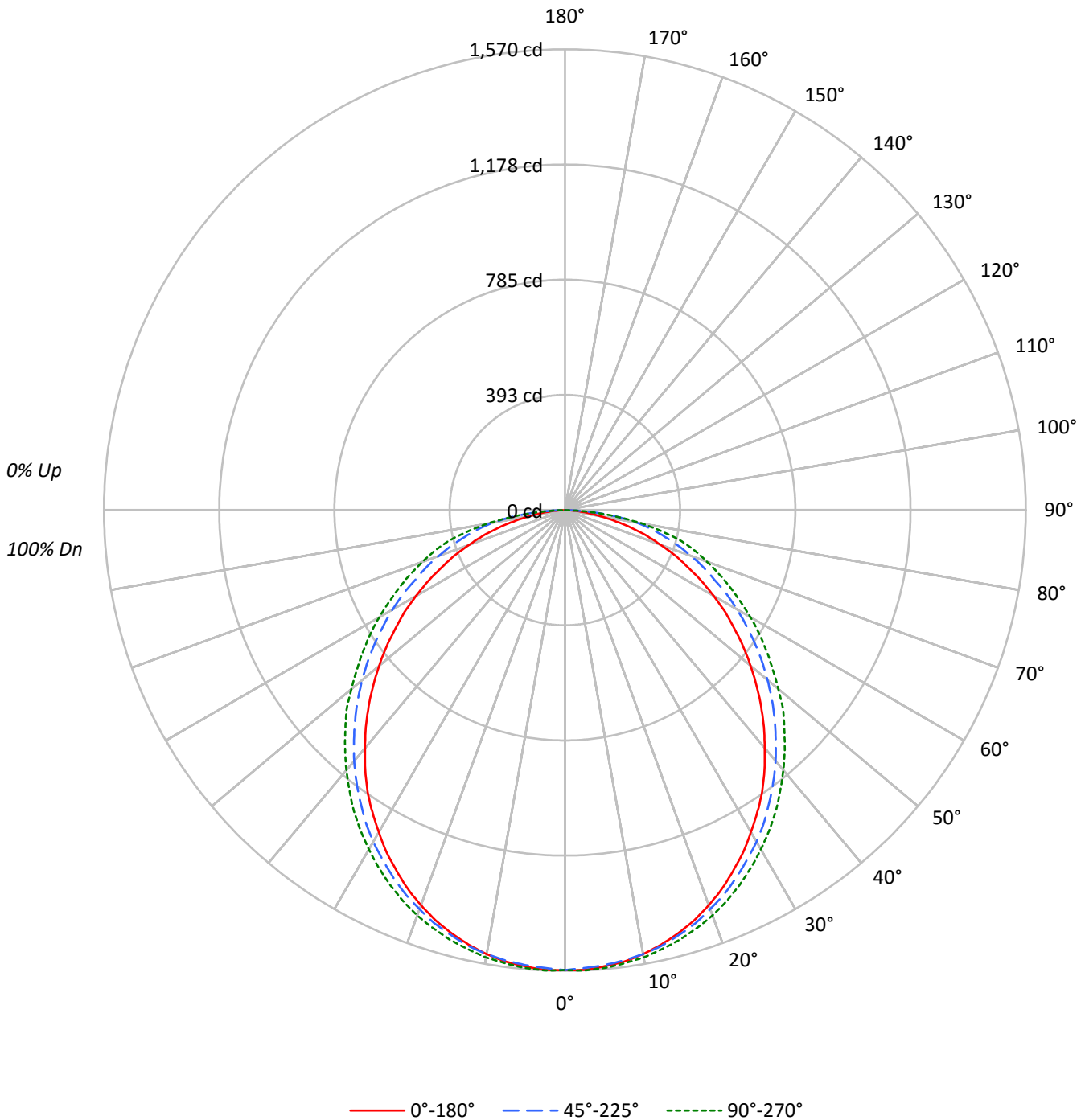
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2109	2109	2109
5°	2108	2102	2115
10°	2099	2099	2115
15°	2079	2089	2110
20°	2052	2072	2104
25°	2014	2052	2091
30°	1969	2028	2074
35°	1925	1995	2058
40°	1860	1962	2034
45°	1799	1923	2012
50°	1730	1887	1988
55°	1652	1852	1968
60°	1575	1823	1964
65°	1476	1791	1976
70°	1366	1801	2030
75°	1223	1835	2144
80°	989	1944	2097
85°	744	1706	1663



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	3.3
10°-20°	424.0	9.5
20°-30°	637.4	14.3
30°-40°	759.3	17.0
40°-50°	777.1	17.4
50°-60°	699.6	15.7
60°-70°	549.4	12.3
70°-80°	356.6	8.0
80°-90°	110.3	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°	1209.8	27.1
0°-40°	1969.1	44.1
0°-60°	3445.7	77.2
0°-90°	4462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1568	1568	1568	1568	1568	
5°	1560	1563	1556	1565	1566	148
15°	1492	1497	1500	1512	1515	421
25°	1356	1368	1382	1404	1409	625
35°	1172	1186	1215	1244	1253	731
45°	945	968	1010	1049	1057	729
55°	704	736	789	830	839	631
65°	464	499	563	609	621	461
75°	235	281	353	401	412	249
85°	48	89	110	108	108	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1567.5	1567.5	1567.5	1567.5	1567.5
2.5°	1568.9	1568.9	1561.9	1568.9	1570.4
5°	1560.4	1563.3	1556.2	1564.7	1566.1
7.5°	1551.9	1551.9	1547.7	1556.2	1557.6
10°	1536.3	1537.8	1536.3	1546.3	1547.7
12.5°	1516.5	1519.3	1520.8	1530.7	1532.1
15°	1492.4	1496.7	1499.5	1512.3	1515.1
17.5°	1465.5	1469.7	1476.8	1491.0	1493.8
20°	1432.9	1438.6	1447.1	1465.5	1469.7
22.5°	1397.5	1403.1	1417.3	1434.3	1441.4
25°	1356.4	1367.7	1381.9	1404.5	1408.8
27.5°	1315.3	1325.2	1343.6	1367.7	1373.4
30°	1267.1	1282.7	1305.3	1329.4	1335.1
32.5°	1220.3	1235.9	1262.8	1288.3	1295.4
35°	1172.1	1186.3	1214.6	1244.4	1252.9
37.5°	1116.8	1135.3	1166.4	1196.2	1204.7
40°	1058.7	1081.4	1116.8	1148.0	1157.9
42.5°	1003.4	1027.5	1063.0	1097.0	1108.3
45°	945.3	968.0	1010.5	1048.8	1057.3
47.5°	885.8	911.3	956.7	994.9	1009.1
50°	826.3	853.2	901.4	941.1	949.6
52.5°	766.8	795.1	846.1	888.6	892.9
55°	704.4	735.6	789.4	830.5	839.0
57.5°	647.7	674.6	732.7	775.3	785.2
60°	585.3	615.1	677.5	717.2	729.9
62.5°	525.8	557.0	622.2	661.9	673.2
65°	463.5	498.9	562.7	609.4	620.8
67.5°	409.6	443.6	511.6	557.0	568.3
70°	347.2	385.5	457.8	504.6	515.9
72.5°	293.4	333.1	405.3	450.7	467.7
75°	235.3	280.6	352.9	401.1	412.4
77.5°	178.6	231.0	304.7	341.6	341.6
80°	127.6	182.8	250.9	267.9	270.7
82.5°	83.6	137.5	185.7	184.2	184.2
85°	48.2	89.3	110.5	107.7	107.7
87.5°	18.4	36.8	39.7	39.7	38.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)