

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: P311473

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP250-W2A-U-3500K**

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: P311473
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-L82765-S-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 3905.0 lumens
Efficiency: N/A
Efficacy: 114.9 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

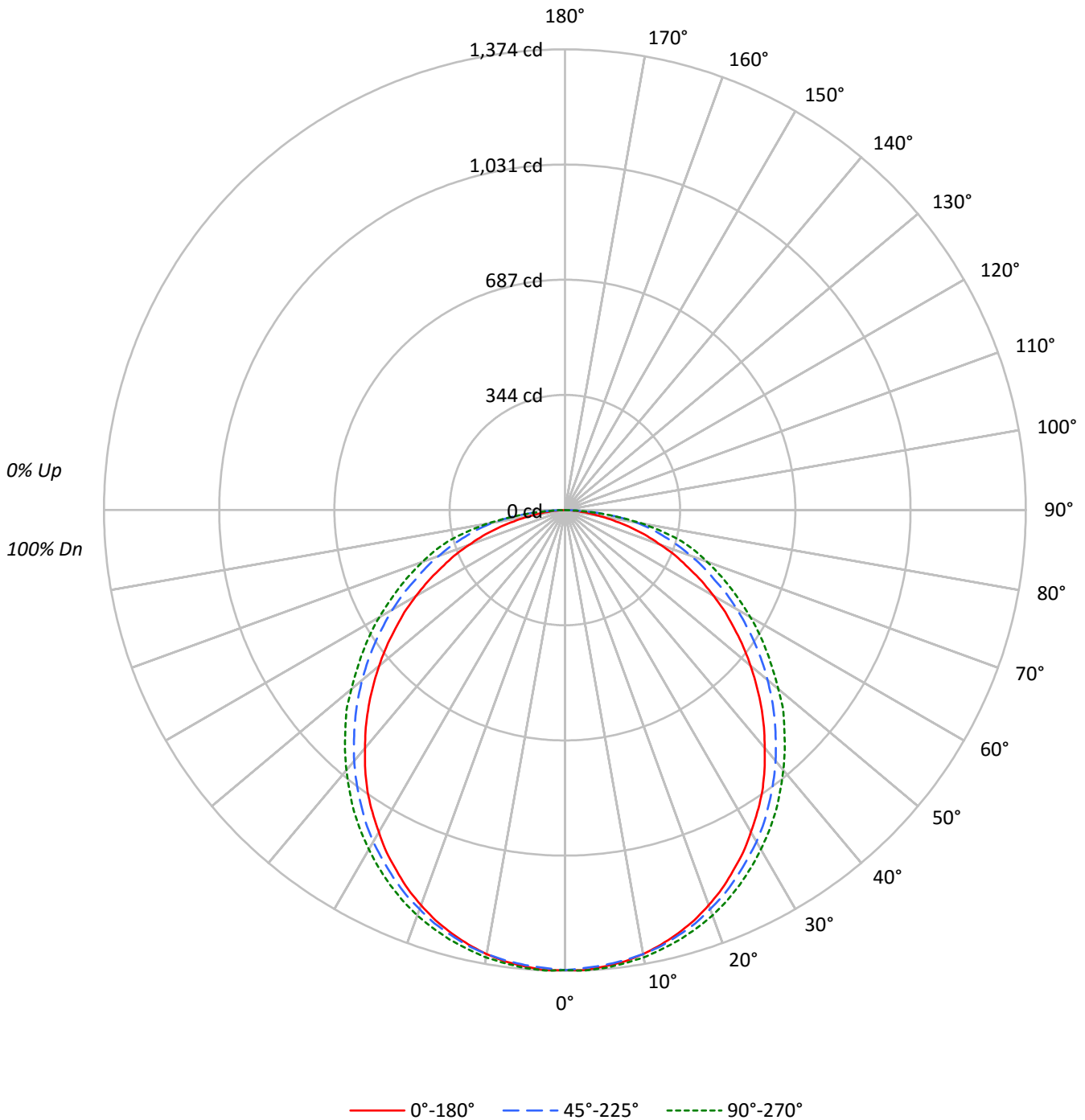
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1846	1846	1846
5°	1845	1839	1851
10°	1837	1837	1851
15°	1819	1828	1847
20°	1796	1813	1842
25°	1762	1795	1830
30°	1723	1775	1815
35°	1685	1746	1801
40°	1627	1717	1780
45°	1574	1683	1761
50°	1514	1651	1739
55°	1446	1621	1723
60°	1379	1595	1719
65°	1291	1568	1730
70°	1196	1576	1776
75°	1070	1606	1876
80°	865	1701	1836
85°	651	1493	1456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.9	3.3
10°-20°	371.1	9.5
20°-30°	557.8	14.3
30°-40°	664.5	17.0
40°-50°	680.1	17.4
50°-60°	612.3	15.7
60°-70°	480.8	12.3
70°-80°	312.1	8.0
80°-90°	96.5	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°	1058.8	27.1
0°-40°	1723.3	44.1
0°-60°	3015.6	77.2
0°-90°	3905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1366	1368	1362	1369	1371	130
15°	1306	1310	1312	1324	1326	368
25°	1187	1197	1209	1229	1233	547
35°	1026	1038	1063	1089	1096	640
45°	827	847	884	918	925	638
55°	616	644	691	727	734	553
65°	406	437	492	533	543	404
75°	206	246	309	351	361	218
85°	42	78	97	94	94	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1371.9	1371.9	1371.9	1371.9	1371.9
2.5°	1373.1	1373.1	1366.9	1373.1	1374.3
5°	1365.7	1368.1	1361.9	1369.4	1370.6
7.5°	1358.2	1358.2	1354.5	1361.9	1363.2
10°	1344.6	1345.8	1344.6	1353.2	1354.5
12.5°	1327.2	1329.7	1330.9	1339.6	1340.8
15°	1306.1	1309.8	1312.3	1323.5	1326.0
17.5°	1282.5	1286.3	1292.5	1304.9	1307.4
20°	1254.0	1259.0	1266.4	1282.5	1286.3
22.5°	1223.0	1228.0	1240.4	1255.3	1261.5
25°	1187.0	1197.0	1209.4	1229.2	1232.9
27.5°	1151.1	1159.7	1175.9	1197.0	1201.9
30°	1108.9	1122.5	1142.4	1163.5	1168.4
32.5°	1068.0	1081.6	1105.2	1127.5	1133.7
35°	1025.8	1038.2	1063.0	1089.0	1096.5
37.5°	977.4	993.5	1020.8	1046.9	1054.3
40°	926.6	946.4	977.4	1004.7	1013.4
42.5°	878.2	899.3	930.3	960.0	970.0
45°	827.3	847.2	884.4	917.9	925.3
47.5°	775.2	797.6	837.3	870.7	883.1
50°	723.1	746.7	788.9	823.6	831.0
52.5°	671.0	695.8	740.5	777.7	781.4
55°	616.5	643.8	690.9	726.9	734.3
57.5°	566.9	590.4	641.3	678.5	687.2
60°	512.3	538.3	592.9	627.6	638.8
62.5°	460.2	487.5	544.5	579.3	589.2
65°	405.6	436.6	492.4	533.4	543.3
67.5°	358.5	388.2	447.8	487.5	497.4
70°	303.9	337.4	400.6	441.6	451.5
72.5°	256.8	291.5	354.7	394.4	409.3
75°	205.9	245.6	308.9	351.0	360.9
77.5°	156.3	202.2	266.7	298.9	298.9
80°	111.6	160.0	219.5	234.4	236.9
82.5°	73.2	120.3	162.5	161.2	161.2
85°	42.2	78.1	96.7	94.3	94.3
87.5°	16.1	32.2	34.7	34.7	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)