

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: P310762

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA08-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: P310762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 4005.0 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

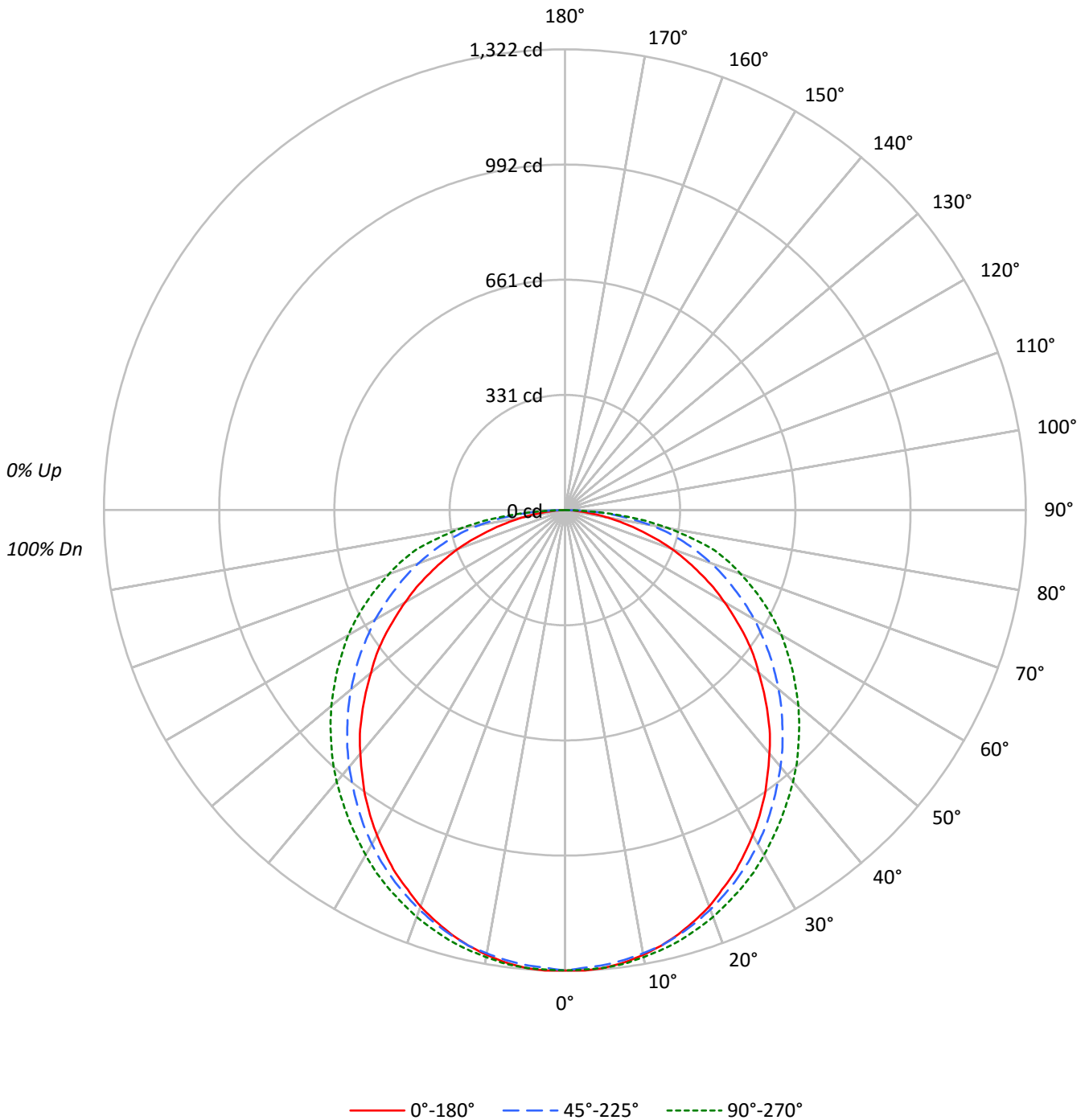
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1777	1777	1777
5°	1780	1770	1780
10°	1770	1765	1779
15°	1755	1758	1781
20°	1733	1747	1779
25°	1706	1734	1777
30°	1674	1720	1775
35°	1641	1702	1777
40°	1603	1690	1788
45°	1565	1679	1803
50°	1519	1674	1830
55°	1481	1677	1867
60°	1423	1691	1931
65°	1358	1709	2001
70°	1286	1762	2112
75°	1147	1838	2307
80°	978	1946	2358
85°	698	1928	2257



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.0	3.1
10°-20°	357.4	8.9
20°-30°	539.8	13.5
30°-40°	650.6	16.2
40°-50°	683.1	17.1
50°-60°	639.0	16.0
60°-70°	527.7	13.2
70°-80°	359.6	9.0
80°-90°	122.6	3.1
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°	1022.3	25.5
0°-40°	1672.9	41.8
0°-60°	2995.0	74.8
0°-90°	4005.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4005.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1321	1321	1321	1321	1321	
5°	1318	1317	1310	1318	1318	125
15°	1260	1261	1262	1276	1278	355
25°	1149	1155	1168	1191	1197	529
35°	999	1010	1036	1071	1082	624
45°	822	840	882	930	947	634
55°	631	656	715	773	796	563
65°	426	462	537	605	628	423
75°	221	271	354	420	444	235
85°	45	89	125	141	146	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1320.8	1320.8	1320.8	1320.8	1320.8
2.5°	1322.1	1320.8	1314.2	1320.8	1319.5
5°	1318.2	1316.8	1310.2	1318.2	1318.2
7.5°	1308.9	1308.9	1302.2	1311.5	1312.8
10°	1295.6	1295.6	1291.6	1302.2	1302.2
12.5°	1279.6	1279.6	1279.6	1290.3	1291.6
15°	1259.7	1261.0	1262.3	1275.6	1278.3
17.5°	1235.8	1238.4	1242.4	1258.4	1261.0
20°	1210.5	1213.2	1219.8	1238.4	1242.4
22.5°	1178.6	1185.3	1194.6	1215.8	1219.8
25°	1149.4	1154.7	1168.0	1190.6	1197.2
27.5°	1113.5	1121.5	1138.8	1162.7	1172.0
30°	1077.6	1085.6	1106.9	1134.8	1142.8
32.5°	1039.1	1051.1	1073.7	1102.9	1112.2
35°	999.2	1009.9	1036.5	1071.0	1081.6
37.5°	955.4	970.0	999.2	1036.5	1049.7
40°	912.9	928.8	962.0	1001.9	1017.9
42.5°	870.4	886.3	923.5	968.7	984.6
45°	822.5	839.8	882.3	930.2	947.4
47.5°	774.7	795.9	842.5	892.9	911.5
50°	725.5	749.4	799.9	853.1	874.3
52.5°	681.7	704.3	757.4	814.5	834.5
55°	631.2	656.4	714.9	773.4	795.9
57.5°	579.4	607.3	669.7	733.5	756.1
60°	528.9	559.4	628.5	692.3	717.5
62.5°	479.7	510.3	582.0	648.4	673.7
65°	426.5	462.4	536.8	604.6	628.5
67.5°	376.0	414.6	493.0	559.4	583.3
70°	326.9	364.1	447.8	512.9	536.8
72.5°	273.7	316.3	400.0	467.7	493.0
75°	220.6	271.1	353.5	419.9	443.8
77.5°	171.4	223.2	305.6	360.1	372.1
80°	126.2	179.4	251.1	289.7	304.3
82.5°	81.1	134.2	191.3	219.2	231.2
85°	45.2	89.0	124.9	140.9	146.2
87.5°	18.6	38.5	50.5	57.1	57.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)