

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: P310780

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP125-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: P310780
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-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 3913.0 lumens
Efficiency: N/A
Efficacy: 115.1 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

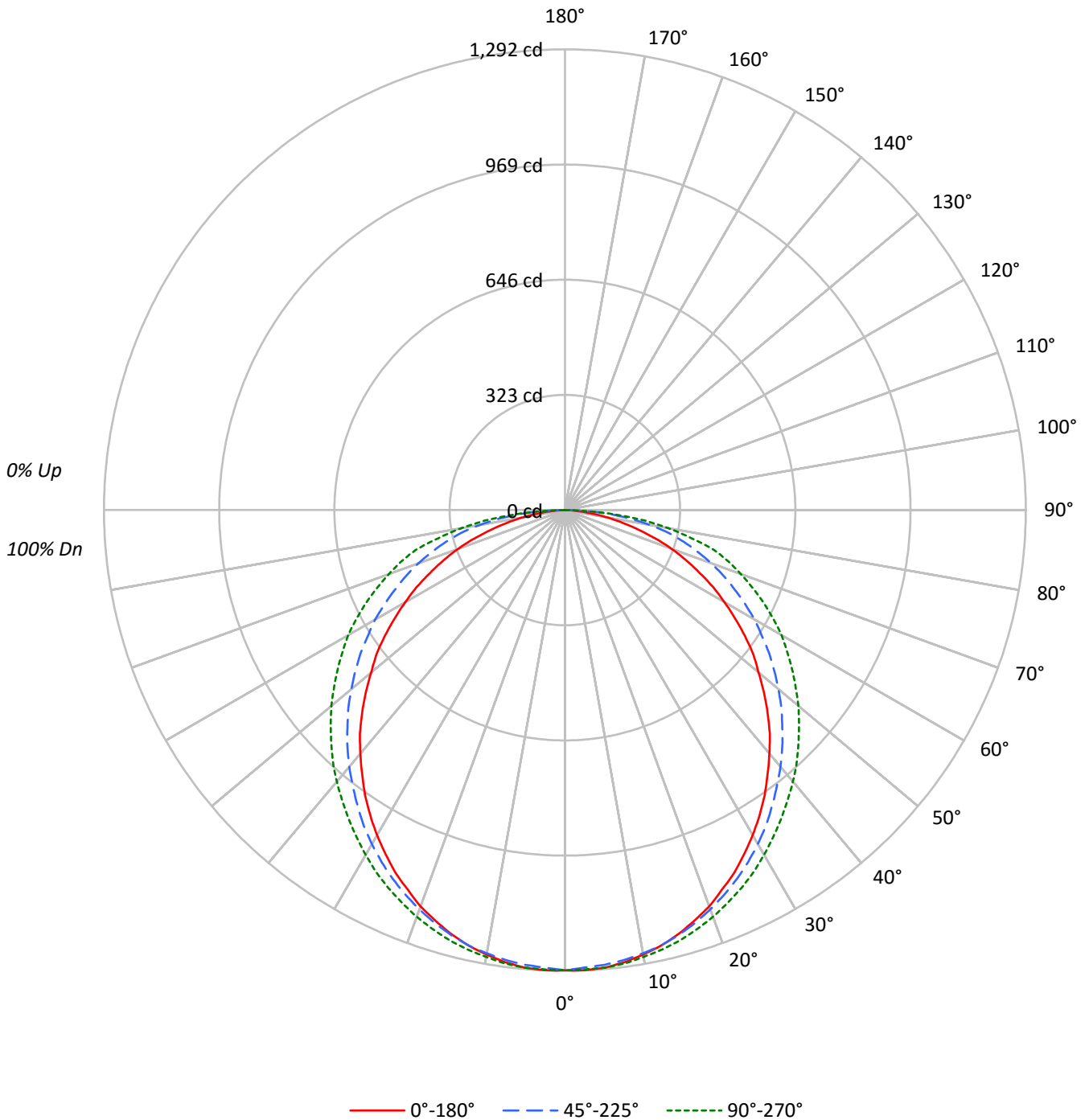
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1736	1736	1736
5°	1739	1729	1739
10°	1729	1724	1738
15°	1714	1718	1740
20°	1693	1706	1738
25°	1667	1694	1737
30°	1636	1680	1735
35°	1604	1663	1736
40°	1567	1651	1747
45°	1529	1640	1761
50°	1484	1636	1788
55°	1447	1639	1824
60°	1390	1653	1887
65°	1327	1670	1955
70°	1257	1721	2063
75°	1120	1795	2254
80°	955	1901	2304
85°	681	1883	2205



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	3.1
10°-20°	349.2	8.9
20°-30°	527.4	13.5
30°-40°	635.7	16.2
40°-50°	667.4	17.1
50°-60°	624.4	16.0
60°-70°	515.6	13.2
70°-80°	351.3	9.0
80°-90°	119.8	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°	998.8	25.5
0°-40°	1634.5	41.8
0°-60°	2926.2	74.8
0°-90°	3913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3913.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1288	1287	1280	1288	1288	122
15°	1231	1232	1233	1246	1249	347
25°	1123	1128	1141	1163	1170	517
35°	976	987	1013	1046	1057	610
45°	804	820	862	909	926	620
55°	617	641	698	756	778	550
65°	417	452	524	591	614	413
75°	216	265	345	410	434	230
85°	44	87	122	138	143	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1290.5	1290.5	1290.5	1290.5	1290.5
2.5°	1291.8	1290.5	1284.0	1290.5	1289.2
5°	1287.9	1286.6	1280.1	1287.9	1287.9
7.5°	1278.8	1278.8	1272.3	1281.4	1282.7
10°	1265.8	1265.8	1261.9	1272.3	1272.3
12.5°	1250.2	1250.2	1250.2	1260.6	1261.9
15°	1230.8	1232.1	1233.3	1246.3	1248.9
17.5°	1207.4	1210.0	1213.9	1229.5	1232.1
20°	1182.7	1185.3	1191.8	1210.0	1213.9
22.5°	1151.6	1158.1	1167.1	1187.9	1191.8
25°	1123.0	1128.2	1141.2	1163.2	1169.7
27.5°	1087.9	1095.7	1112.6	1136.0	1145.1
30°	1052.9	1060.7	1081.5	1108.7	1116.5
32.5°	1015.2	1026.9	1049.0	1077.6	1086.6
35°	976.3	986.7	1012.6	1046.4	1056.8
37.5°	933.5	947.7	976.3	1012.6	1025.6
40°	891.9	907.5	939.9	978.9	994.5
42.5°	850.4	865.9	902.3	946.4	962.0
45°	803.6	820.5	862.0	908.8	925.7
47.5°	756.9	777.7	823.1	872.4	890.6
50°	708.9	732.2	781.6	833.5	854.3
52.5°	666.0	688.1	740.0	795.8	815.3
55°	616.7	641.3	698.5	755.6	777.7
57.5°	566.0	593.3	654.3	716.6	738.7
60°	516.7	546.6	614.1	676.4	701.1
62.5°	468.7	498.5	568.6	633.6	658.2
65°	416.7	451.8	524.5	590.7	614.1
67.5°	367.4	405.1	481.7	546.6	569.9
70°	319.4	355.7	437.5	501.1	524.5
72.5°	267.4	309.0	390.8	457.0	481.7
75°	215.5	264.8	345.3	410.3	433.6
77.5°	167.5	218.1	298.6	351.8	363.5
80°	123.3	175.3	245.4	283.0	297.3
82.5°	79.2	131.1	186.9	214.2	225.9
85°	44.1	87.0	122.0	137.6	142.8
87.5°	18.2	37.6	49.3	55.8	55.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)