

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: P310108

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP125-W2A-U-5000K**

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: P310108
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 5000K 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: 2774.0 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

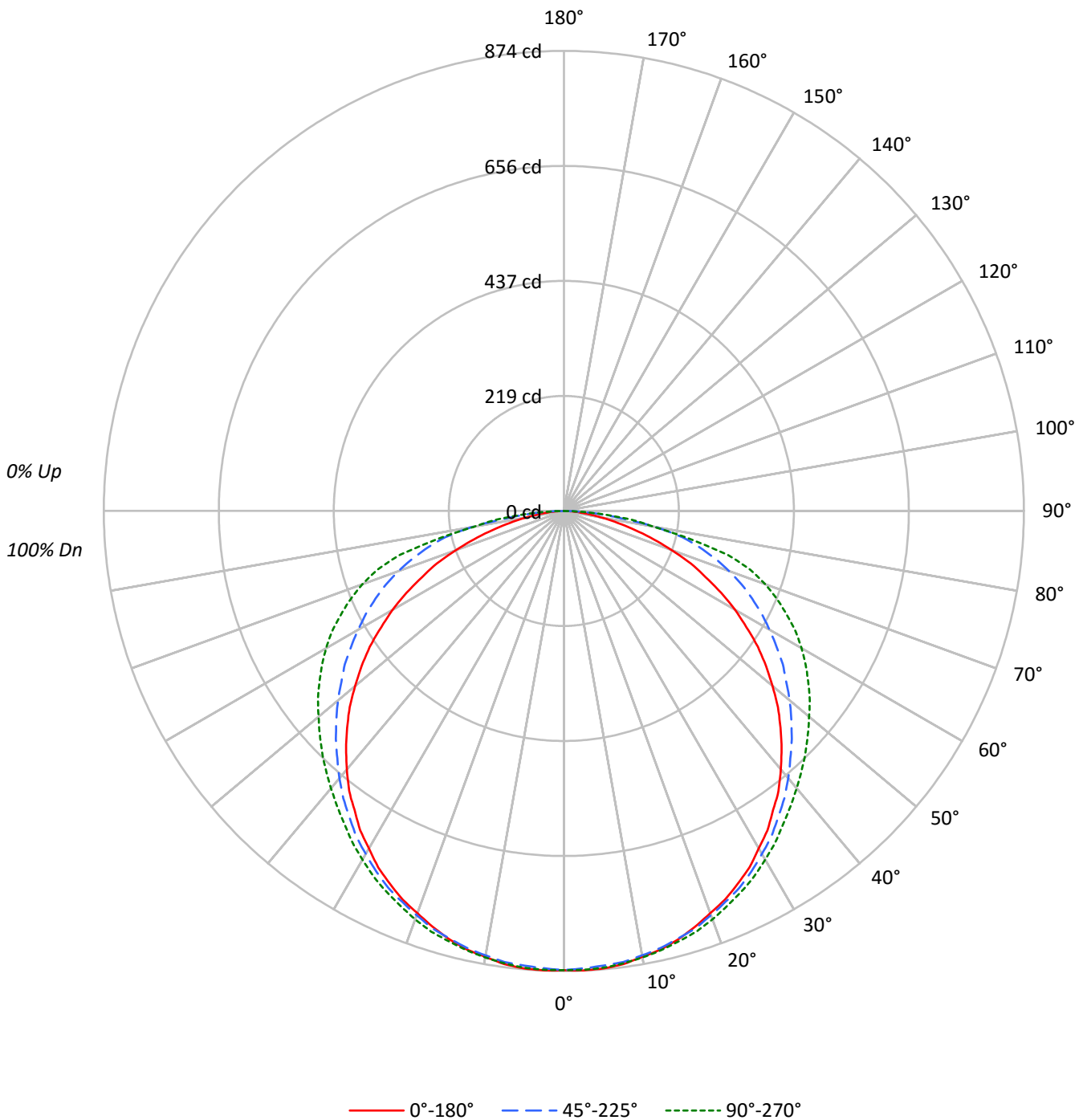
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82				82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67				67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56				56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47				47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40				40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27				27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24				24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22				22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1174	1174	1174
5°	1178	1171	1176
10°	1175	1171	1177
15°	1173	1171	1179
20°	1164	1170	1182
25°	1160	1173	1185
30°	1150	1169	1189
35°	1139	1166	1193
40°	1126	1165	1208
45°	1107	1165	1236
50°	1083	1172	1273
55°	1055	1191	1330
60°	1011	1214	1403
65°	946	1257	1489
70°	861	1316	1602
75°	729	1387	1674
80°	576	1396	1354
85°	425	1062	1190



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.7	3.0
10°-20°	238.2	8.6
20°-30°	364.2	13.1
30°-40°	445.2	16.0
40°-50°	474.5	17.1
50°-60°	453.7	16.4
60°-70°	384.3	13.9
70°-80°	258.3	9.3
80°-90°	72.9	2.6
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°	685.1	24.7
0°-40°	1130.3	40.7
0°-60°	2058.5	74.2
0°-90°	2774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	872	872	872	872	872	
5°	872	871	867	871	871	83
15°	842	842	841	848	846	237
25°	782	784	790	797	798	360
35°	694	699	710	724	726	434
45°	582	592	612	638	649	449
55°	450	466	508	548	567	401
65°	297	328	395	447	468	295
75°	140	191	267	312	322	150
85°	28	56	69	74	77	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	872.3	872.3	872.3	872.3	872.3
2.5°	873.7	873.7	869.6	872.3	872.3
5°	872.3	871.0	866.8	871.0	871.0
7.5°	868.2	866.8	864.1	868.2	866.8
10°	860.0	860.0	857.2	861.3	861.3
12.5°	853.1	851.7	850.3	855.8	854.5
15°	842.1	842.1	840.7	847.6	846.2
17.5°	828.3	829.7	831.1	836.6	837.9
20°	813.2	815.9	817.3	825.6	825.6
22.5°	799.4	800.8	803.5	811.8	811.8
25°	781.5	784.3	789.8	796.7	798.0
27.5°	763.6	765.0	771.9	781.5	782.9
30°	740.3	744.4	752.6	763.6	765.0
32.5°	719.6	723.7	733.4	744.4	747.1
35°	693.5	699.0	710.0	723.7	726.5
37.5°	670.1	674.2	688.0	703.1	707.2
40°	641.2	649.4	663.2	681.1	688.0
42.5°	612.3	620.5	637.1	660.4	668.7
45°	582.0	591.7	612.3	638.4	649.4
47.5°	551.8	562.8	586.1	616.4	628.8
50°	517.4	531.1	560.0	594.4	608.2
52.5°	484.3	500.8	532.5	571.0	588.9
55°	449.9	466.4	507.7	547.6	566.9
57.5°	411.4	433.4	478.8	524.2	544.9
60°	375.6	396.3	451.3	500.8	521.5
62.5°	337.1	364.6	423.8	476.1	496.7
65°	297.2	327.5	394.9	447.2	467.8
67.5°	261.4	294.5	366.0	418.3	438.9
70°	218.8	260.1	334.4	386.6	407.3
72.5°	178.9	224.3	301.3	352.2	371.5
75°	140.3	191.3	266.9	312.3	322.0
77.5°	104.6	158.2	231.2	250.4	243.5
80°	74.3	126.6	180.2	170.6	174.7
82.5°	48.2	96.3	111.5	126.6	130.7
85°	27.5	56.4	68.8	74.3	77.1
87.5°	12.4	20.6	27.5	27.5	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)