

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: P310092

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-5700K**

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: P310092
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-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 2875.0 lumens
Efficiency: N/A
Efficacy: 82.9 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

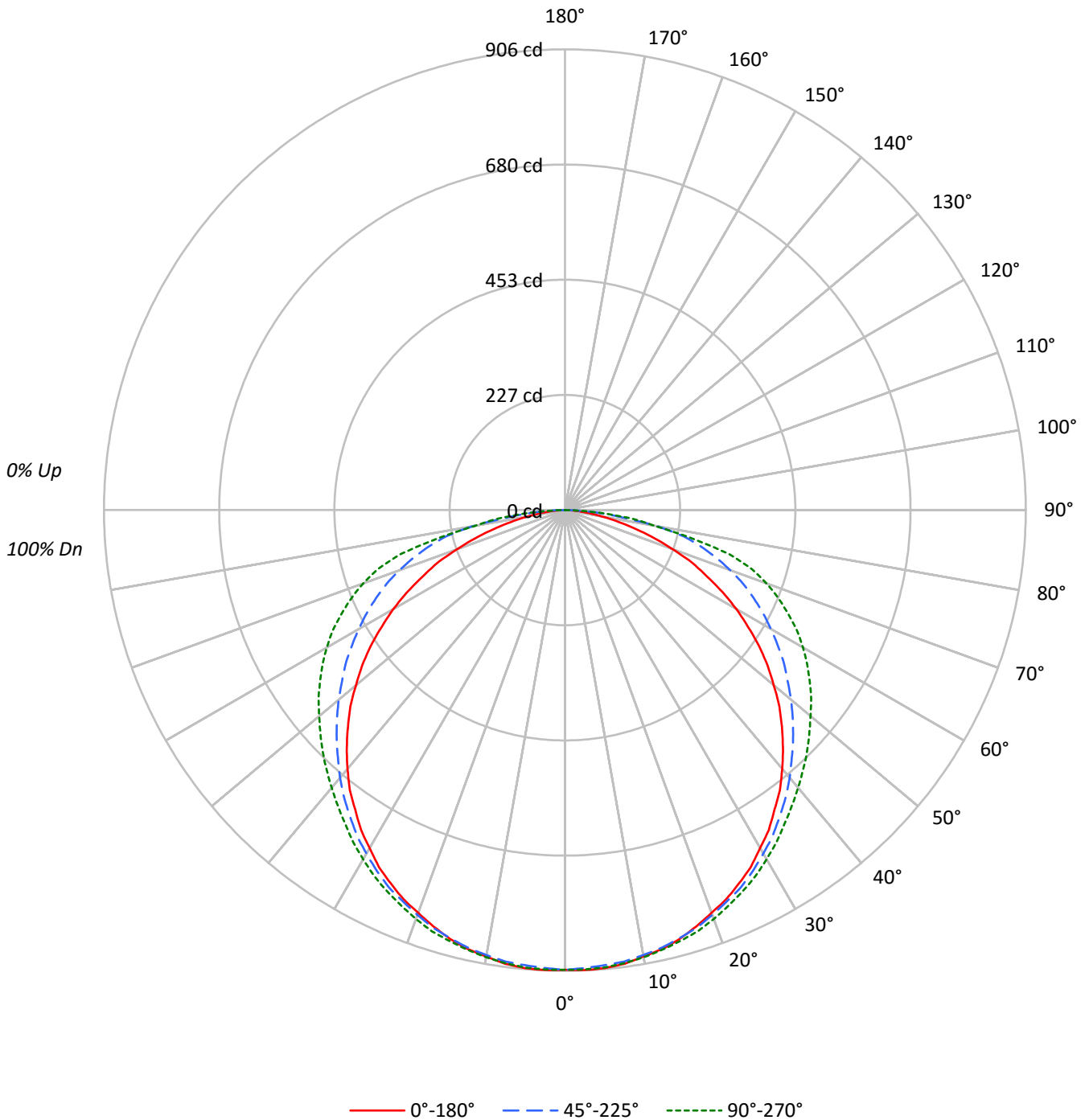
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1216	1216	1216
5°	1221	1213	1219
10°	1218	1214	1220
15°	1216	1214	1222
20°	1207	1213	1225
25°	1203	1215	1228
30°	1192	1212	1232
35°	1180	1209	1237
40°	1167	1207	1252
45°	1148	1208	1281
50°	1122	1215	1319
55°	1094	1234	1378
60°	1048	1259	1454
65°	981	1303	1544
70°	892	1363	1661
75°	756	1438	1735
80°	597	1447	1403
85°	440	1101	1233



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	3.0
10°-20°	246.8	8.6
20°-30°	377.4	13.1
30°-40°	461.4	16.0
40°-50°	491.8	17.1
50°-60°	470.2	16.4
60°-70°	398.3	13.9
70°-80°	267.7	9.3
80°-90°	75.5	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°	710.0	24.7
0°-40°	1171.5	40.7
0°-60°	2133.4	74.2
0°-90°	2875.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2875.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	904	904	904	904	904	
5°	904	903	898	903	903	86
15°	873	873	871	878	877	246
25°	810	813	818	826	827	373
35°	719	724	736	750	753	450
45°	603	613	635	662	673	465
55°	466	483	526	568	588	415
65°	308	339	409	464	485	306
75°	146	198	277	324	334	156
85°	28	58	71	77	80	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	904.1	904.1	904.1	904.1	904.1
2.5°	905.5	905.5	901.3	904.1	904.1
5°	904.1	902.7	898.4	902.7	902.7
7.5°	899.8	898.4	895.5	899.8	898.4
10°	891.3	891.3	888.4	892.7	892.7
12.5°	884.1	882.7	881.3	887.0	885.6
15°	872.7	872.7	871.3	878.4	877.0
17.5°	858.5	859.9	861.3	867.0	868.5
20°	842.8	845.6	847.1	855.6	855.6
22.5°	828.5	830.0	832.8	841.4	841.4
25°	810.0	812.8	818.5	825.7	827.1
27.5°	791.4	792.9	800.0	810.0	811.4
30°	767.2	771.5	780.0	791.4	792.9
32.5°	745.8	750.1	760.1	771.5	774.3
35°	718.7	724.4	735.8	750.1	752.9
37.5°	694.5	698.8	713.0	728.7	733.0
40°	664.5	673.1	687.3	705.9	713.0
42.5°	634.6	643.1	660.3	684.5	693.1
45°	603.2	613.2	634.6	661.7	673.1
47.5°	571.8	583.2	607.5	638.9	651.7
50°	536.2	550.4	580.4	616.0	630.3
52.5°	502.0	519.1	551.9	591.8	610.3
55°	466.3	483.4	526.2	567.6	587.5
57.5°	426.4	449.2	496.3	543.3	564.7
60°	389.3	410.7	467.7	519.1	540.5
62.5°	349.4	377.9	439.2	493.4	514.8
65°	308.0	339.4	409.3	463.5	484.9
67.5°	270.9	305.2	379.3	433.5	454.9
70°	226.7	269.5	346.5	400.7	422.1
72.5°	185.4	232.4	312.3	365.1	385.0
75°	145.5	198.2	276.7	323.7	333.7
77.5°	108.4	164.0	239.6	259.5	252.4
80°	77.0	131.2	186.8	176.8	181.1
82.5°	49.9	99.8	115.5	131.2	135.5
85°	28.5	58.5	71.3	77.0	79.9
87.5°	12.8	21.4	28.5	28.5	27.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)