

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: P310085

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-2700K**

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: P310085
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-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 2530.0 lumens
Efficiency: N/A
Efficacy: 74.9 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

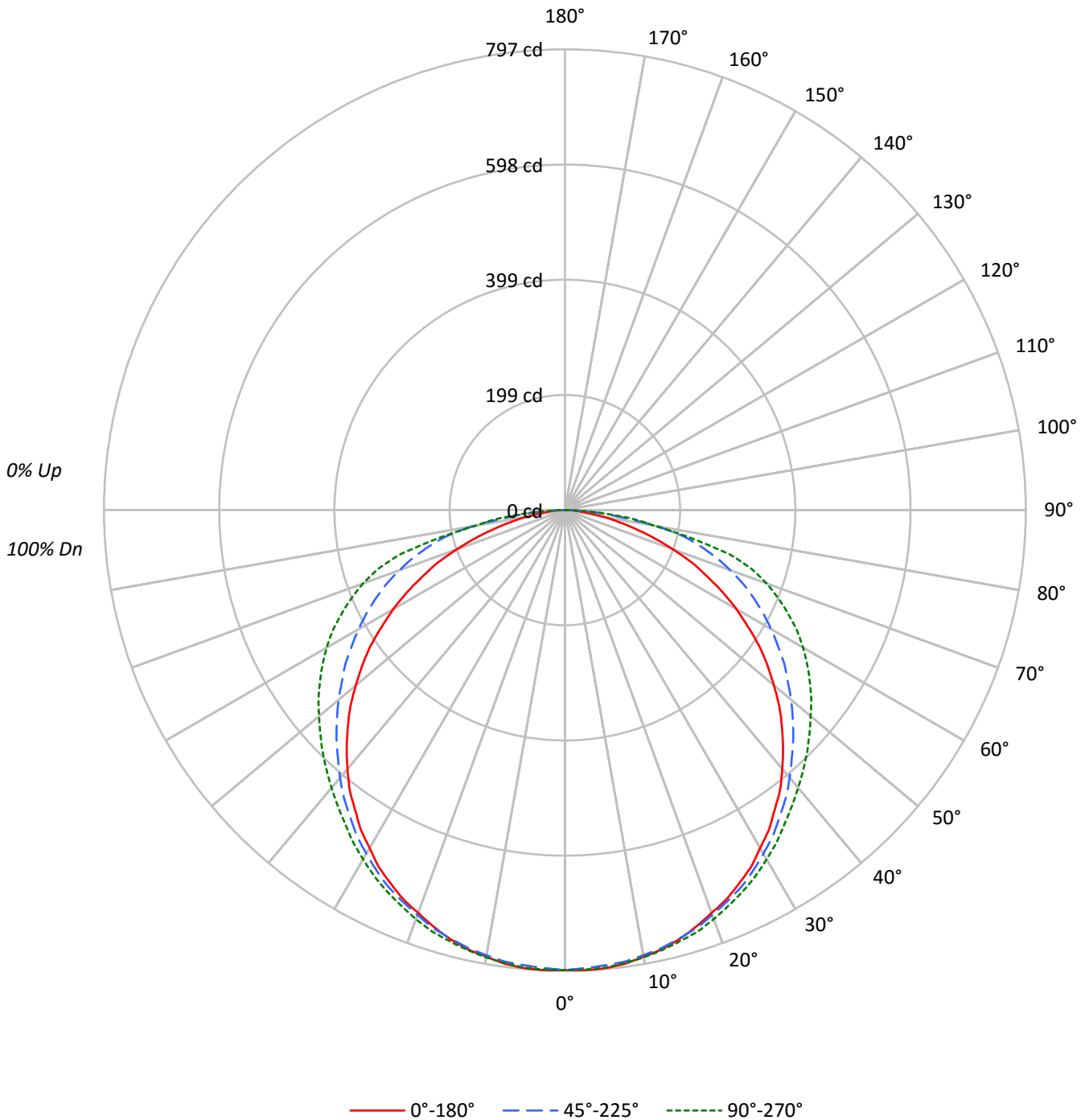
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1070	1070	1070
5°	1075	1068	1073
10°	1072	1068	1073
15°	1070	1068	1075
20°	1062	1067	1078
25°	1058	1069	1080
30°	1049	1066	1084
35°	1039	1064	1088
40°	1027	1062	1102
45°	1010	1063	1127
50°	988	1069	1161
55°	963	1086	1213
60°	922	1108	1280
65°	863	1147	1358
70°	785	1199	1461
75°	665	1266	1526
80°	525	1274	1235
85°	387	968	1085



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.5	3.0
10°-20°	217.2	8.6
20°-30°	332.2	13.1
30°-40°	406.1	16.0
40°-50°	432.8	17.1
50°-60°	413.8	16.4
60°-70°	350.5	13.9
70°-80°	235.6	9.3
80°-90°	66.5	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°	624.8	24.7
0°-40°	1030.9	40.7
0°-60°	1877.4	74.2
0°-90°	2530.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2530.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	796	796	796	796	796	
5°	796	794	791	794	794	76
15°	768	768	767	773	772	217
25°	713	715	720	727	728	329
35°	632	638	648	660	663	396
45°	531	540	558	582	592	409
55°	410	425	463	500	517	365
65°	271	299	360	408	427	269
75°	128	174	244	285	294	137
85°	25	52	63	68	70	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	795.6	795.6	795.6	795.6	795.6
2.5°	796.9	796.9	793.1	795.6	795.6
5°	795.6	794.4	790.6	794.4	794.4
7.5°	791.8	790.6	788.1	791.8	790.6
10°	784.3	784.3	781.8	785.6	785.6
12.5°	778.0	776.8	775.5	780.6	779.3
15°	768.0	768.0	766.7	773.0	771.8
17.5°	755.5	756.7	758.0	763.0	764.2
20°	741.7	744.2	745.4	752.9	752.9
22.5°	729.1	730.4	732.9	740.4	740.4
25°	712.8	715.3	720.3	726.6	727.8
27.5°	696.5	697.7	704.0	712.8	714.0
30°	675.1	678.9	686.4	696.5	697.7
32.5°	656.3	660.1	668.9	678.9	681.4
35°	632.5	637.5	647.5	660.1	662.6
37.5°	611.1	614.9	627.5	641.3	645.0
40°	584.8	592.3	604.9	621.2	627.5
42.5°	558.4	566.0	581.0	602.4	609.9
45°	530.8	539.6	558.4	582.3	592.3
47.5°	503.2	513.3	534.6	562.2	573.5
50°	471.8	484.4	510.7	542.1	554.7
52.5°	441.7	456.8	485.7	520.8	537.1
55°	410.4	425.4	463.1	499.5	517.0
57.5°	375.2	395.3	436.7	478.1	496.9
60°	342.6	361.4	411.6	456.8	475.6
62.5°	307.5	332.6	386.5	434.2	453.0
65°	271.1	298.7	360.2	407.8	426.7
67.5°	238.4	268.6	333.8	381.5	400.3
70°	199.5	237.2	304.9	352.6	371.5
72.5°	163.1	204.6	274.8	321.3	338.8
75°	128.0	174.4	243.5	284.9	293.6
77.5°	95.4	144.3	210.8	228.4	222.1
80°	67.8	115.5	164.4	155.6	159.4
82.5°	43.9	87.8	101.6	115.5	119.2
85°	25.1	51.5	62.7	67.8	70.3
87.5°	11.3	18.8	25.1	25.1	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)