

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: P310122

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-3000K**

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: P310122
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 2416.0 lumens
Efficiency: N/A
Efficacy: 71.9 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

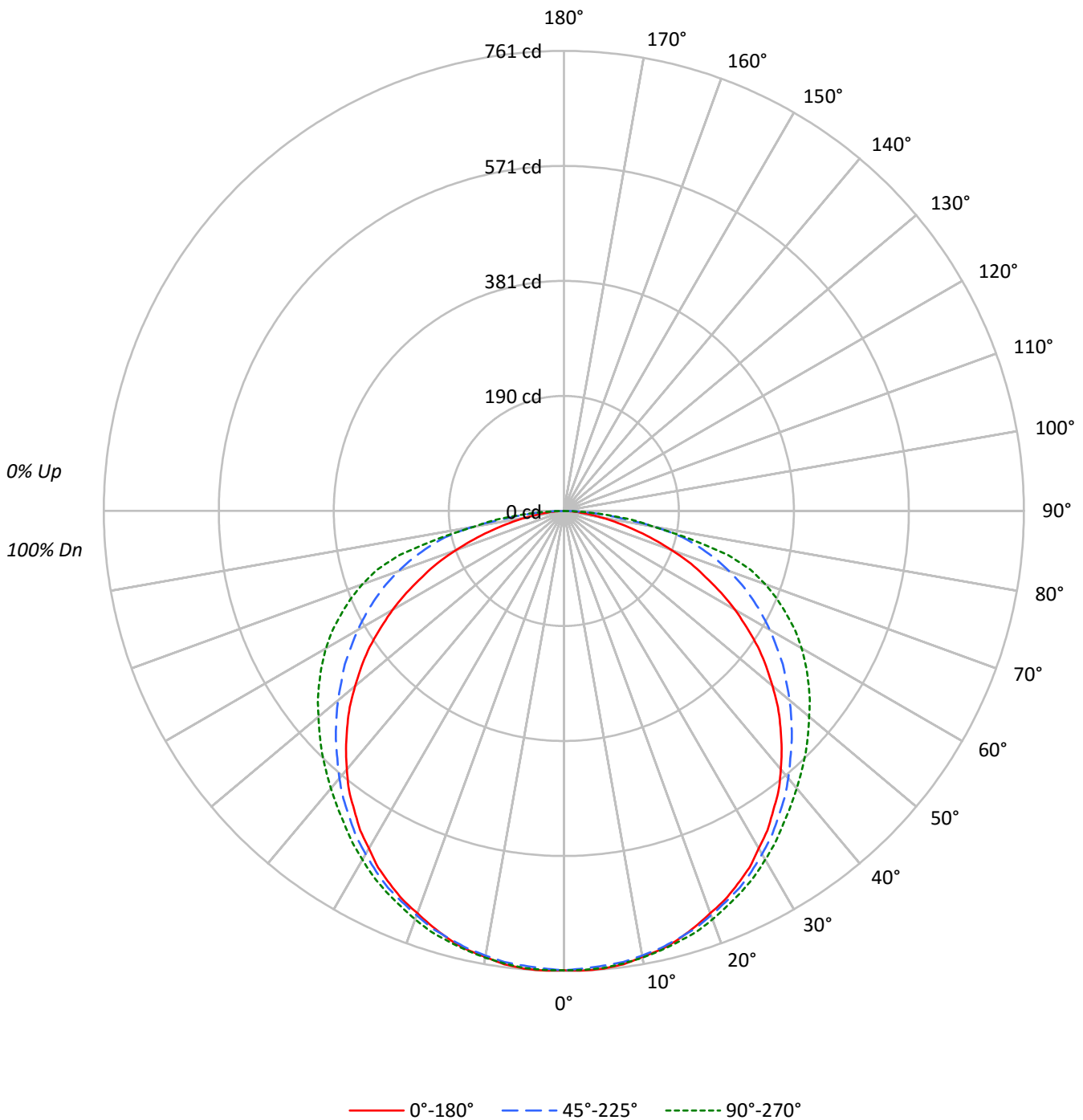
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	68	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°	1022	1022	1022
5°	1026	1020	1025
10°	1023	1020	1025
15°	1022	1020	1027
20°	1014	1019	1029
25°	1011	1021	1032
30°	1002	1018	1035
35°	992	1016	1039
40°	981	1015	1052
45°	965	1015	1076
50°	943	1021	1109
55°	919	1037	1158
60°	880	1058	1222
65°	824	1095	1297
70°	749	1146	1395
75°	635	1209	1458
80°	501	1216	1179
85°	371	925	1036



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.1	3.0
10°-20°	207.4	8.6
20°-30°	317.2	13.1
30°-40°	387.8	16.0
40°-50°	413.3	17.1
50°-60°	395.1	16.4
60°-70°	334.7	13.9
70°-80°	225.0	9.3
80°-90°	63.5	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°	596.7	24.7
0°-40°	984.4	40.7
0°-60°	1792.8	74.2
0°-90°	2416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2416.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	760	760	760	760	760	
5°	760	759	755	759	759	72
15°	733	733	732	738	737	207
25°	681	683	688	694	695	314
35°	604	609	618	630	633	378
45°	507	515	533	556	566	391
55°	392	406	442	477	494	349
65°	259	285	344	390	407	257
75°	122	167	232	272	280	131
85°	24	49	60	65	67	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	759.8	759.8	759.8	759.8	759.8
2.5°	761.0	761.0	757.4	759.8	759.8
5°	759.8	758.6	755.0	758.6	758.6
7.5°	756.2	755.0	752.6	756.2	755.0
10°	749.0	749.0	746.6	750.2	750.2
12.5°	743.0	741.8	740.6	745.4	744.2
15°	733.4	733.4	732.2	738.2	737.0
17.5°	721.4	722.6	723.8	728.6	729.8
20°	708.2	710.6	711.8	719.0	719.0
22.5°	696.2	697.4	699.8	707.0	707.0
25°	680.7	683.1	687.9	693.9	695.1
27.5°	665.1	666.3	672.3	680.7	681.9
30°	644.7	648.3	655.5	665.1	666.3
32.5°	626.7	630.3	638.7	648.3	650.7
35°	604.0	608.8	618.4	630.3	632.7
37.5°	583.6	587.2	599.2	612.4	616.0
40°	558.4	565.6	577.6	593.2	599.2
42.5°	533.3	540.5	554.8	575.2	582.4
45°	506.9	515.3	533.3	556.0	565.6
47.5°	480.5	490.1	510.5	536.9	547.7
50°	450.6	462.6	487.7	517.7	529.7
52.5°	421.8	436.2	463.8	497.3	512.9
55°	391.9	406.2	442.2	476.9	493.7
57.5°	358.3	377.5	417.0	456.6	474.6
60°	327.2	345.1	393.1	436.2	454.2
62.5°	293.6	317.6	369.1	414.6	432.6
65°	258.8	285.2	343.9	389.5	407.4
67.5°	227.7	256.4	318.8	364.3	382.3
70°	190.5	226.5	291.2	336.7	354.7
72.5°	155.8	195.3	262.4	306.8	323.6
75°	122.2	166.6	232.5	272.0	280.4
77.5°	91.1	137.8	201.3	218.1	212.1
80°	64.7	110.2	157.0	148.6	152.2
82.5°	41.9	83.9	97.1	110.2	113.8
85°	24.0	49.1	59.9	64.7	67.1
87.5°	10.8	18.0	24.0	24.0	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)