

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: P310118

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5500K**

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: P310118
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-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 2684.0 lumens
Efficiency: N/A
Efficacy: 77.3 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

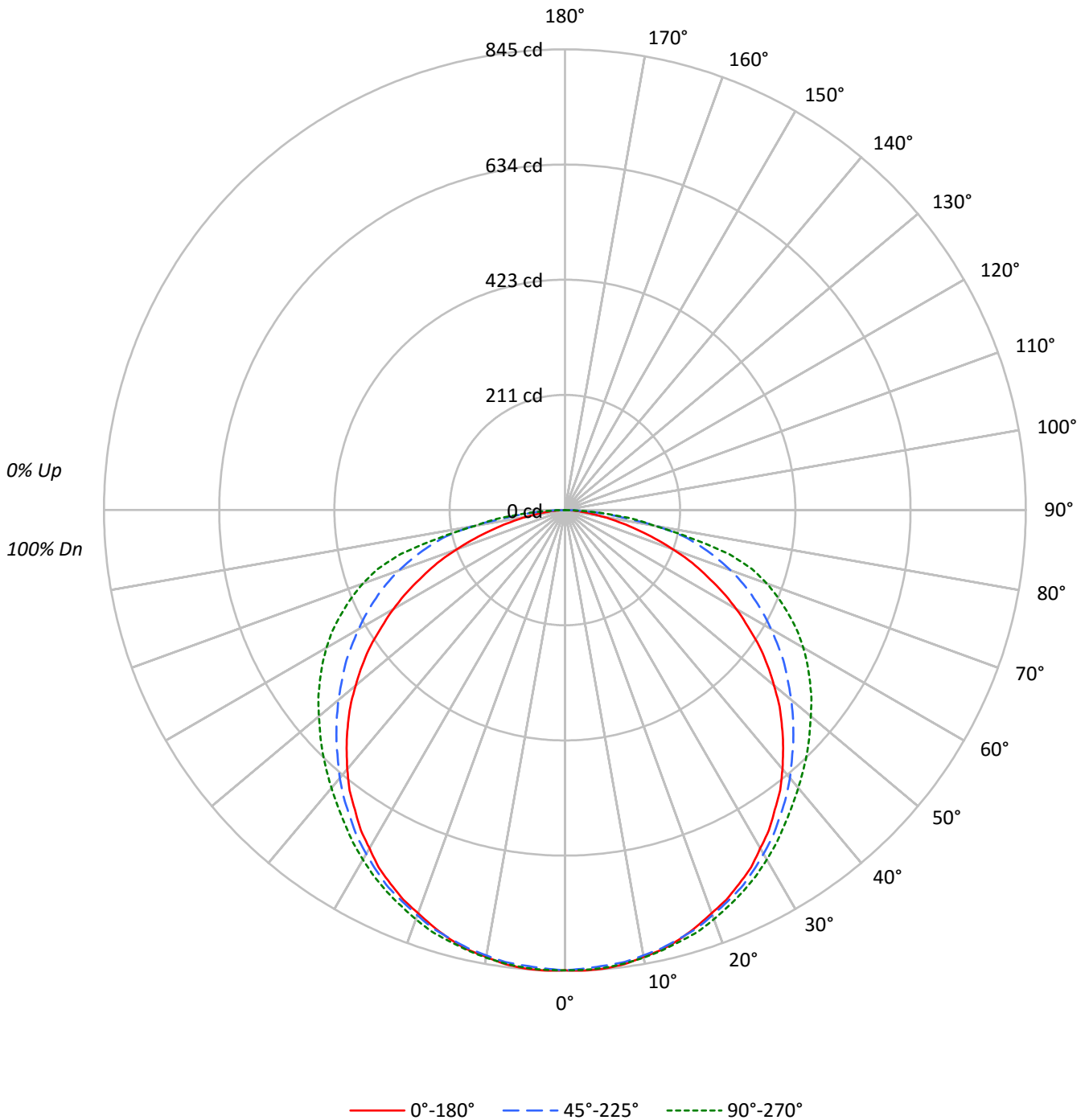
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310118

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5500K

Luminous Intensity Polar Plot





TEST NUMBER: P310118

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5500K

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°	1136	1136	1136
5°	1140	1133	1138
10°	1137	1133	1139
15°	1135	1133	1140
20°	1127	1132	1144
25°	1123	1135	1146
30°	1113	1131	1150
35°	1102	1128	1155
40°	1090	1127	1169
45°	1071	1127	1196
50°	1048	1134	1232
55°	1021	1152	1287
60°	978	1175	1358
65°	916	1216	1441
70°	833	1273	1550
75°	706	1343	1619
80°	557	1351	1310
85°	411	1028	1152



TEST NUMBER: P310118

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.1	3.0
10°-20°	230.4	8.6
20°-30°	352.4	13.1
30°-40°	430.8	16.0
40°-50°	459.1	17.1
50°-60°	439.0	16.4
60°-70°	371.9	13.9
70°-80°	249.9	9.3
80°-90°	70.5	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°	662.9	24.7
0°-40°	1093.6	40.7
0°-60°	1991.7	74.2
0°-90°	2684.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2684.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	844	844	844	844	844	
5°	844	843	839	843	843	80
15°	815	815	813	820	819	230
25°	756	759	764	771	772	349
35°	671	676	687	700	703	420
45°	563	572	592	618	628	434
55°	435	451	491	530	548	388
65°	288	317	382	433	453	285
75°	136	185	258	302	312	145
85°	27	55	67	72	75	33
90°	0	0	0	0	0	



TEST NUMBER: P310118

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	844.0	844.0	844.0	844.0	844.0
2.5°	845.4	845.4	841.4	844.0	844.0
5°	844.0	842.7	838.7	842.7	842.7
7.5°	840.0	838.7	836.1	840.0	838.7
10°	832.1	832.1	829.4	833.4	833.4
12.5°	825.4	824.1	822.7	828.1	826.7
15°	814.8	814.8	813.4	820.1	818.7
17.5°	801.4	802.8	804.1	809.4	810.8
20°	786.8	789.5	790.8	798.8	798.8
22.5°	773.5	774.8	777.5	785.5	785.5
25°	756.2	758.8	764.2	770.8	772.2
27.5°	738.9	740.2	746.9	756.2	757.5
30°	716.2	720.2	728.2	738.9	740.2
32.5°	696.3	700.3	709.6	720.2	722.9
35°	671.0	676.3	686.9	700.3	702.9
37.5°	648.3	652.3	665.6	680.3	684.3
40°	620.4	628.4	641.7	659.0	665.6
42.5°	592.4	600.4	616.4	639.0	647.0
45°	563.1	572.5	592.4	617.7	628.4
47.5°	533.8	544.5	567.1	596.4	608.4
50°	500.6	513.9	541.8	575.1	588.4
52.5°	468.6	484.6	515.2	552.5	569.8
55°	435.3	451.3	491.2	529.9	548.5
57.5°	398.1	419.4	463.3	507.2	527.2
60°	363.4	383.4	436.7	484.6	504.6
62.5°	326.2	352.8	410.0	460.6	480.6
65°	287.6	316.8	382.1	432.7	452.6
67.5°	252.9	284.9	354.1	404.7	424.7
70°	211.7	251.6	323.5	374.1	394.1
72.5°	173.1	217.0	291.6	340.8	359.4
75°	135.8	185.1	258.3	302.2	311.5
77.5°	101.2	153.1	223.7	242.3	235.6
80°	71.9	122.5	174.4	165.1	169.1
82.5°	46.6	93.2	107.8	122.5	126.5
85°	26.6	54.6	66.6	71.9	74.6
87.5°	12.0	20.0	26.6	26.6	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)