

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: P313589

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-RDP-CP250-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: P313589
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-L83050-RDP-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 2713.0 lumens
Efficiency: N/A
Efficacy: 76.4 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

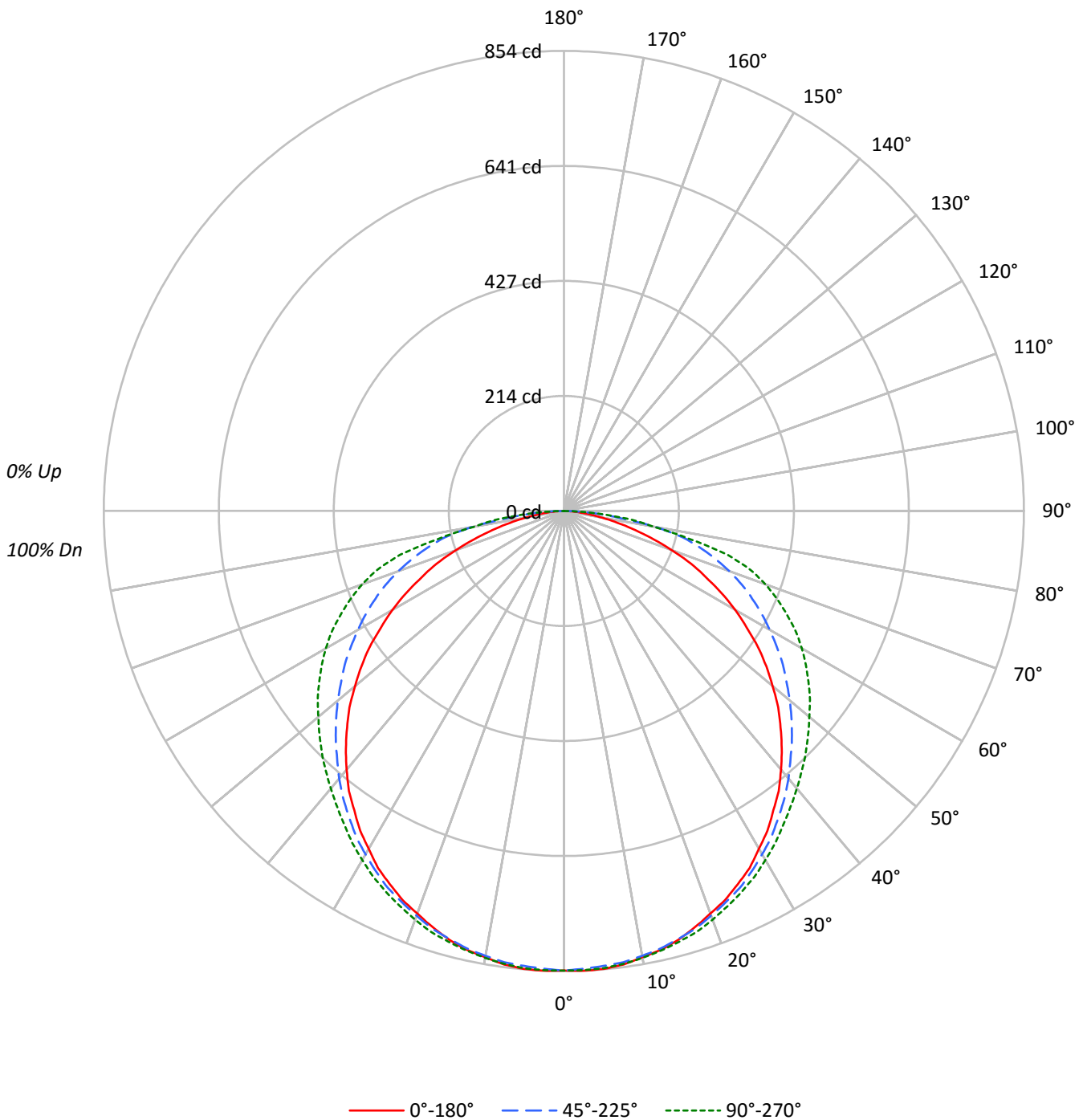
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313589

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CP250-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P313589

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CP250-W2A-U-5000K

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°	1148	1148	1148
5°	1152	1145	1150
10°	1149	1145	1151
15°	1147	1145	1153
20°	1139	1144	1156
25°	1135	1147	1159
30°	1125	1144	1162
35°	1114	1141	1167
40°	1101	1139	1182
45°	1083	1139	1209
50°	1059	1146	1245
55°	1032	1165	1301
60°	989	1188	1372
65°	926	1230	1457
70°	842	1286	1567
75°	714	1357	1637
80°	563	1366	1324
85°	415	1039	1164



TEST NUMBER: P313589

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CP250-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.9	3.0
10°-20°	232.9	8.6
20°-30°	356.2	13.1
30°-40°	435.4	16.0
40°-50°	464.1	17.1
50°-60°	443.7	16.4
60°-70°	375.9	13.9
70°-80°	252.6	9.3
80°-90°	71.3	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°	670.0	24.7
0°-40°	1105.4	40.7
0°-60°	2013.2	74.2
0°-90°	2713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	853	853	853	853	853	
5°	853	852	848	852	852	81
15°	824	824	822	829	828	232
25°	764	767	772	779	780	352
35°	678	684	694	708	710	425
45°	569	579	599	624	635	439
55°	440	456	497	536	554	392
65°	291	320	386	437	458	289
75°	137	187	261	306	315	147
85°	27	55	67	73	75	33
90°	0	0	0	0	0	



TEST NUMBER: P313589

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-RDP-CP250-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	853.2	853.2	853.2	853.2	853.2
2.5°	854.5	854.5	850.5	853.2	853.2
5°	853.2	851.8	847.8	851.8	851.8
7.5°	849.1	847.8	845.1	849.1	847.8
10°	841.0	841.0	838.4	842.4	842.4
12.5°	834.3	833.0	831.6	837.0	835.7
15°	823.6	823.6	822.2	828.9	827.6
17.5°	810.1	811.4	812.8	818.2	819.5
20°	795.3	798.0	799.3	807.4	807.4
22.5°	781.8	783.2	785.9	794.0	794.0
25°	764.3	767.0	772.4	779.1	780.5
27.5°	746.9	748.2	754.9	764.3	765.7
30°	724.0	728.0	736.1	746.9	748.2
32.5°	703.8	707.8	717.2	728.0	730.7
35°	678.2	683.6	694.4	707.8	710.5
37.5°	655.3	659.4	672.8	687.6	691.7
40°	627.1	635.2	648.6	666.1	672.8
42.5°	598.8	606.9	623.0	645.9	654.0
45°	569.2	578.6	598.8	624.4	635.2
47.5°	539.6	550.4	573.3	602.9	615.0
50°	506.0	519.4	547.7	581.3	594.8
52.5°	473.7	489.8	520.8	558.5	576.0
55°	440.0	456.2	496.6	535.6	554.4
57.5°	402.4	423.9	468.3	512.7	532.9
60°	367.4	387.6	441.4	489.8	510.0
62.5°	329.7	356.6	414.5	465.6	485.8
65°	290.7	320.3	386.2	437.3	457.5
67.5°	255.7	288.0	358.0	409.1	429.3
70°	214.0	254.3	327.0	378.1	398.3
72.5°	174.9	219.3	294.7	344.5	363.3
75°	137.3	187.0	261.1	305.5	314.9
77.5°	102.3	154.8	226.1	244.9	238.2
80°	72.7	123.8	176.3	166.9	170.9
82.5°	47.1	94.2	109.0	123.8	127.8
85°	26.9	55.2	67.3	72.7	75.4
87.5°	12.1	20.2	26.9	26.9	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)