

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: P313204

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP125-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: P313204  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CP125-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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**

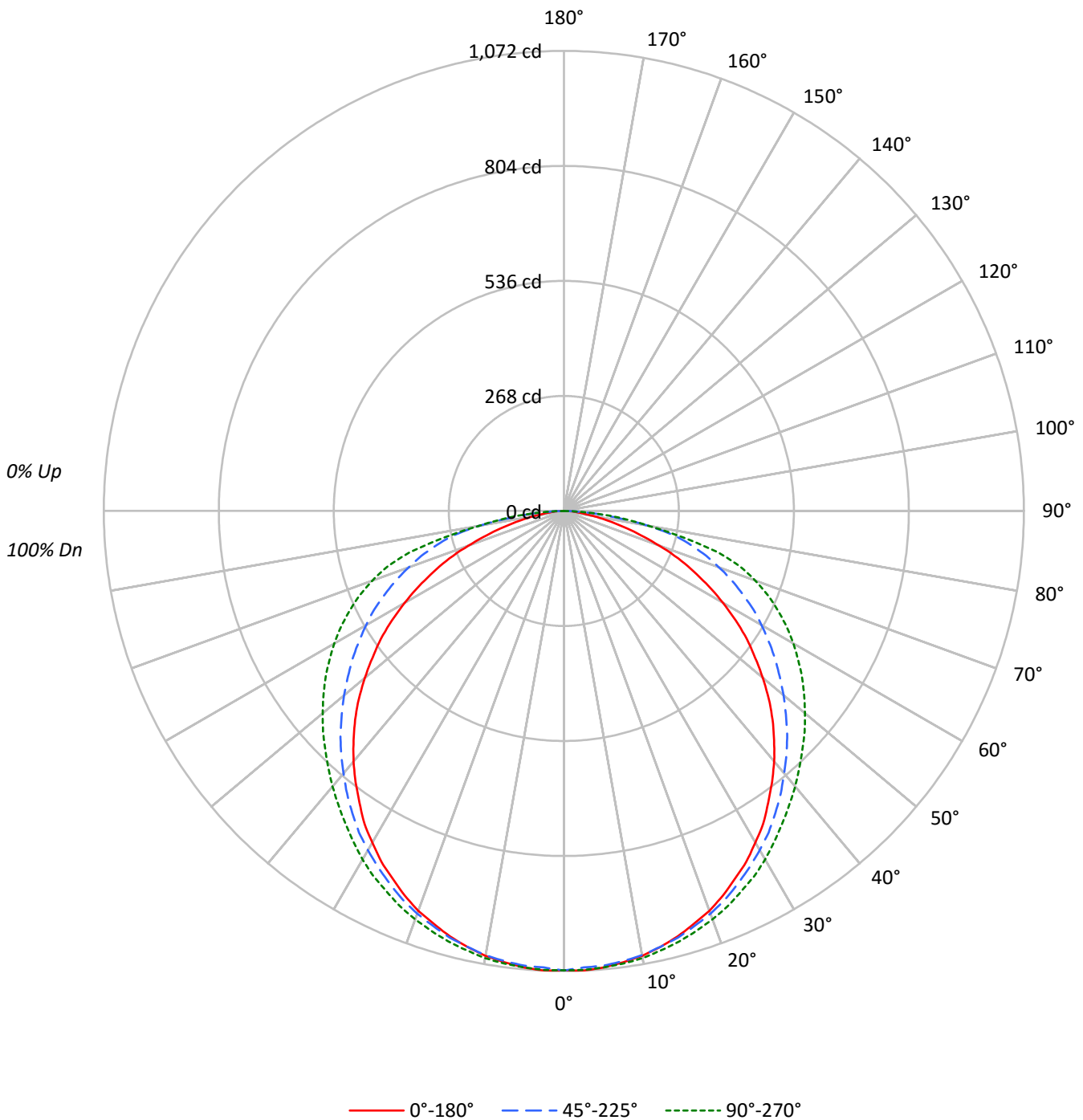
Lumens per Lamp: N/A  
Luminaire Lumens: 3299.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P313204

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-HRP-CP125-W2A-U-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P313204

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-HRP-CP125-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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1440	1440	1440
5°	1442	1436	1442
10°	1438	1436	1445
15°	1429	1433	1447
20°	1420	1430	1450
25°	1402	1423	1452
30°	1386	1418	1457
35°	1363	1411	1459
40°	1339	1402	1472
45°	1309	1401	1495
50°	1266	1399	1535
55°	1221	1409	1591
60°	1152	1431	1661
65°	1064	1464	1755
70°	929	1516	1869
75°	754	1594	1931
80°	556	1562	1562
85°	426	1152	1300



TEST NUMBER: P313204

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-HRP-CP125-W2A-U-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.4	3.1
10°-20°	291.2	8.8
20°-30°	443.3	13.4
30°-40°	538.2	16.3
40°-50°	568.6	17.2
50°-60°	536.6	16.3
60°-70°	446.2	13.5
70°-80°	293.5	8.9
80°-90°	80.0	2.4
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°	835.8	25.3
0°-40°	1374.1	41.7
0°-60°	2479.3	75.2
0°-90°	3299.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3299.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1070	1070	1070	1070	1070	
5°	1068	1068	1064	1068	1068	101
15°	1026	1028	1029	1039	1039	289
25°	945	950	958	975	978	436
35°	830	840	859	881	888	520
45°	688	702	736	772	786	530
55°	521	543	601	657	678	464
65°	334	373	460	528	551	330
75°	145	211	307	363	372	156
85°	28	61	75	83	84	34
90°	0	0	0	0	0	



TEST NUMBER: P313204

CATALOG NUMBER: 24FCZ2-45HE-UNV-L83050-HRP-CP125-W2A-U-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1070.4	1070.4	1070.4	1070.4	1070.4
2.5°	1071.7	1070.4	1064.8	1070.4	1070.4
5°	1067.6	1067.6	1063.5	1067.6	1067.6
7.5°	1060.7	1060.7	1057.9	1063.5	1063.5
10°	1052.4	1052.4	1051.0	1057.9	1057.9
12.5°	1040.0	1041.4	1040.0	1048.3	1048.3
15°	1026.2	1027.5	1028.9	1038.6	1038.6
17.5°	1008.2	1011.0	1013.7	1024.8	1026.2
20°	991.6	993.0	998.5	1011.0	1012.4
22.5°	969.5	973.7	980.6	993.0	997.2
25°	944.7	950.2	958.5	975.1	977.8
27.5°	921.2	925.3	936.4	954.3	959.9
30°	892.2	899.1	912.9	930.9	937.8
32.5°	864.6	871.5	888.1	907.4	912.9
35°	830.0	839.7	859.1	881.2	888.1
37.5°	796.9	806.6	830.0	854.9	863.2
40°	762.4	773.4	798.3	827.3	838.3
42.5°	725.1	740.3	767.9	799.7	812.1
45°	687.8	701.6	736.1	772.0	785.9
47.5°	647.7	664.3	701.6	744.4	761.0
50°	604.9	625.6	668.5	715.4	733.4
52.5°	562.1	585.6	633.9	686.4	705.7
55°	520.7	542.8	600.8	657.4	678.1
57.5°	475.1	502.7	566.3	627.0	647.7
60°	428.1	458.5	531.7	595.3	617.4
62.5°	381.2	415.7	498.6	562.1	585.6
65°	334.2	372.9	459.9	527.6	551.1
67.5°	288.7	331.5	424.0	491.7	515.2
70°	236.2	290.0	385.3	451.6	475.1
72.5°	187.8	250.0	348.0	410.2	430.9
75°	145.0	211.3	306.6	363.2	371.5
77.5°	106.3	172.6	263.8	283.1	284.5
80°	71.8	138.1	201.6	198.9	201.6
82.5°	47.0	103.6	127.1	142.3	143.6
85°	27.6	60.8	74.6	82.9	84.2
87.5°	13.8	20.7	26.2	27.6	30.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)