

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: P310328

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP125-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: P310328  
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: 24FCZ2-60HE-UNV-L82765-RDP-CP125-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB 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**

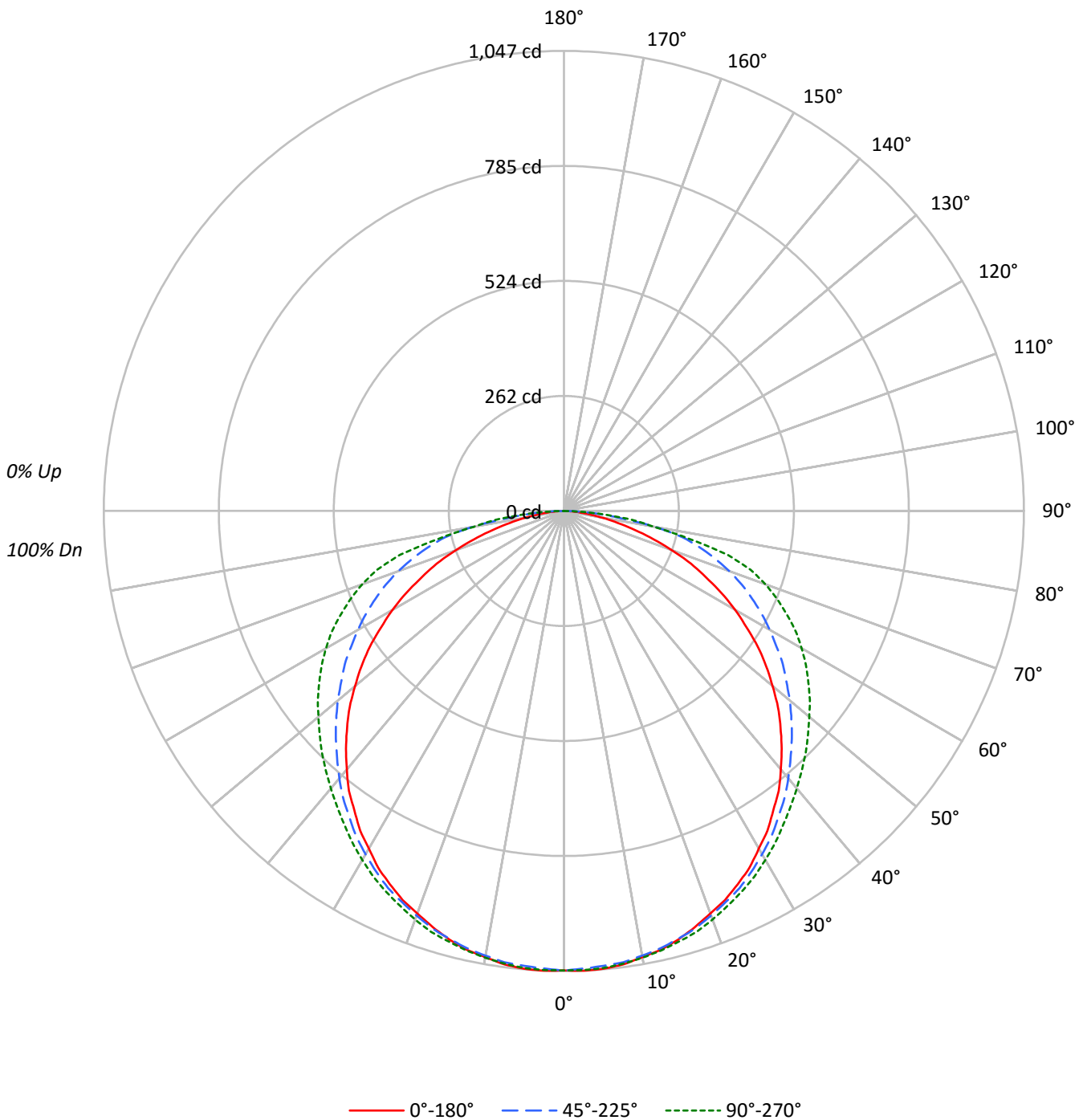
Lumens per Lamp: N/A  
Luminaire Lumens: 3325.0 lumens  
Efficiency: N/A  
Efficacy: 69.9 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
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



TEST NUMBER: P310328

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CP125-W2A-U-2700K

### Luminous Intensity Polar Plot





TEST NUMBER: P310328

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CP125-W2A-U-2700K

**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	100	96	92	96	93	89	92	89	87	88	86	84	82				82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67				67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56				56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47				47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40				40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27				27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24				24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22				22

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

	0°	45°	90°
0°	1407	1407	1407
5°	1412	1403	1410
10°	1408	1404	1411
15°	1406	1404	1413
20°	1396	1403	1417
25°	1391	1405	1420
30°	1379	1402	1425
35°	1365	1398	1430
40°	1350	1396	1448
45°	1327	1396	1481
50°	1298	1405	1526
55°	1265	1428	1594
60°	1211	1456	1682
65°	1134	1507	1785
70°	1031	1577	1921
75°	874	1664	2006
80°	690	1674	1623
85°	509	1274	1426



TEST NUMBER: P310328

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CP125-W2A-U-2700K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.2	3.0
10°-20°	285.5	8.6
20°-30°	436.5	13.1
30°-40°	533.6	16.0
40°-50°	568.8	17.1
50°-60°	543.8	16.4
60°-70°	460.7	13.9
70°-80°	309.6	9.3
80°-90°	87.3	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°	821.2	24.7
0°-40°	1354.8	40.7
0°-60°	2467.4	74.2
0°-90°	3325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3325.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1046	1046	1046	1046	1046	
5°	1046	1044	1039	1044	1044	99
15°	1009	1009	1008	1016	1014	285
25°	937	940	947	955	957	432
35°	831	838	851	868	871	521
45°	698	709	734	765	778	538
55°	539	559	609	656	680	480
65°	356	392	473	536	561	354
75°	168	229	320	374	386	180
85°	33	68	82	89	92	41
90°	0	0	0	0	0	



TEST NUMBER: P310328

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CP125-W2A-U-2700K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1045.6	1045.6	1045.6	1045.6	1045.6
2.5°	1047.3	1047.3	1042.3	1045.6	1045.6
5°	1045.6	1044.0	1039.0	1044.0	1044.0
7.5°	1040.7	1039.0	1035.7	1040.7	1039.0
10°	1030.8	1030.8	1027.5	1032.4	1032.4
12.5°	1022.5	1020.9	1019.2	1025.8	1024.2
15°	1009.3	1009.3	1007.7	1015.9	1014.3
17.5°	992.8	994.5	996.1	1002.7	1004.4
20°	974.7	978.0	979.6	989.5	989.5
22.5°	958.2	959.9	963.2	973.1	973.1
25°	936.8	940.1	946.7	954.9	956.6
27.5°	915.3	917.0	925.2	936.8	938.4
30°	887.3	892.2	902.1	915.3	917.0
32.5°	862.6	867.5	879.0	892.2	895.5
35°	831.2	837.8	851.0	867.5	870.8
37.5°	803.2	808.1	824.6	842.8	847.7
40°	768.5	778.4	794.9	816.4	824.6
42.5°	733.9	743.8	763.6	791.6	801.5
45°	697.6	709.2	733.9	765.2	778.4
47.5°	661.3	674.5	702.6	738.9	753.7
50°	620.1	636.6	671.2	712.5	729.0
52.5°	580.5	600.3	638.3	684.4	705.9
55°	539.3	559.1	608.6	656.4	679.5
57.5°	493.1	519.5	573.9	628.4	653.1
60°	450.2	475.0	541.0	600.3	625.1
62.5°	404.1	437.0	508.0	570.6	595.4
65°	356.2	392.5	473.3	536.0	560.7
67.5°	313.4	352.9	438.7	501.4	526.1
70°	262.2	311.7	400.8	463.4	488.2
72.5°	214.4	268.8	361.2	422.2	445.3
75°	168.2	229.2	320.0	374.4	385.9
77.5°	125.3	189.7	277.1	300.2	291.9
80°	89.1	151.7	216.1	204.5	209.5
82.5°	57.7	115.4	133.6	151.7	156.7
85°	33.0	67.6	82.5	89.1	92.4
87.5°	14.8	24.7	33.0	33.0	31.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)