

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: P310091

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-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: P310091  
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-CA08-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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**

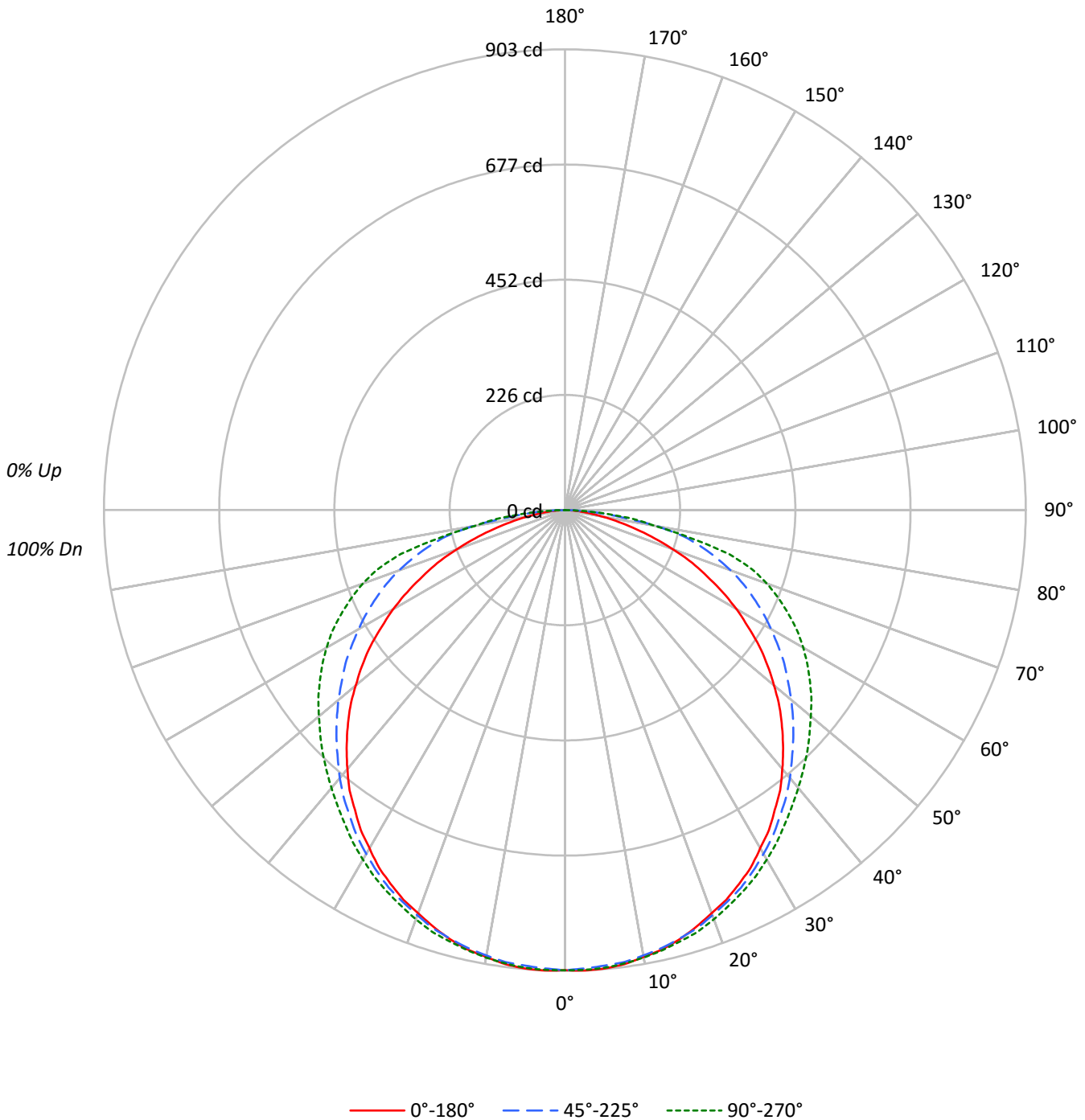
Lumens per Lamp: N/A  
Luminaire Lumens: 2868.0 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P310091

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-5500K

### Luminous Intensity Polar Plot





TEST NUMBER: P310091

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CA08-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°	1213	1213	1213
5°	1218	1210	1216
10°	1215	1211	1217
15°	1213	1211	1219
20°	1204	1210	1222
25°	1200	1212	1225
30°	1189	1209	1229
35°	1178	1206	1234
40°	1164	1204	1249
45°	1145	1204	1278
50°	1120	1212	1316
55°	1091	1231	1375
60°	1045	1256	1451
65°	978	1300	1540
70°	890	1360	1657
75°	754	1435	1731
80°	595	1444	1400
85°	440	1098	1230



TEST NUMBER: P310091

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-5500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.6	3.0
10°-20°	246.2	8.6
20°-30°	376.5	13.1
30°-40°	460.3	16.0
40°-50°	490.6	17.1
50°-60°	469.1	16.4
60°-70°	397.4	13.9
70°-80°	267.1	9.3
80°-90°	75.3	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°	708.3	24.7
0°-40°	1168.6	40.7
0°-60°	2128.2	74.2
0°-90°	2868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2868.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	902	902	902	902	902	
5°	902	900	896	900	900	86
15°	871	871	869	876	875	245
25°	808	811	817	824	825	372
35°	717	723	734	748	751	449
45°	602	612	633	660	671	464
55°	465	482	525	566	586	414
65°	307	339	408	462	484	305
75°	145	198	276	323	333	155
85°	28	58	71	77	80	35
90°	0	0	0	0	0	



TEST NUMBER: P310091

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-5500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	901.9	901.9	901.9	901.9	901.9
2.5°	903.3	903.3	899.1	901.9	901.9
5°	901.9	900.5	896.2	900.5	900.5
7.5°	897.6	896.2	893.4	897.6	896.2
10°	889.1	889.1	886.3	890.5	890.5
12.5°	882.0	880.6	879.1	884.8	883.4
15°	870.6	870.6	869.2	876.3	874.9
17.5°	856.4	857.8	859.2	864.9	866.3
20°	840.7	843.6	845.0	853.5	853.5
22.5°	826.5	827.9	830.8	839.3	839.3
25°	808.0	810.9	816.6	823.7	825.1
27.5°	789.5	790.9	798.1	808.0	809.4
30°	765.3	769.6	778.1	789.5	790.9
32.5°	744.0	748.3	758.2	769.6	772.5
35°	717.0	722.7	734.0	748.3	751.1
37.5°	692.8	697.1	711.3	726.9	731.2
40°	662.9	671.4	685.7	704.2	711.3
42.5°	633.0	641.6	658.6	682.8	691.4
45°	601.7	611.7	633.0	660.1	671.4
47.5°	570.4	581.8	606.0	637.3	650.1
50°	534.9	549.1	579.0	614.5	628.8
52.5°	500.7	517.8	550.5	590.4	608.9
55°	465.2	482.2	524.9	566.2	586.1
57.5°	425.3	448.1	495.1	542.0	563.3
60°	388.4	409.7	466.6	517.8	539.2
62.5°	348.5	377.0	438.1	492.2	513.5
65°	307.3	338.6	408.3	462.3	483.7
67.5°	270.3	304.4	378.4	432.5	453.8
70°	226.2	268.9	345.7	399.7	421.1
72.5°	184.9	231.9	311.5	364.2	384.1
75°	145.1	197.7	276.0	322.9	332.9
77.5°	108.1	163.6	239.0	258.9	251.8
80°	76.8	130.9	186.4	176.4	180.7
82.5°	49.8	99.6	115.2	130.9	135.1
85°	28.5	58.3	71.1	76.8	79.7
87.5°	12.8	21.3	28.5	28.5	27.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)