

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: P313617

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K**

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: P313617  
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: 24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 4000K 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: 3245.0 lumens  
Efficiency: N/A  
Efficacy: 82.6 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

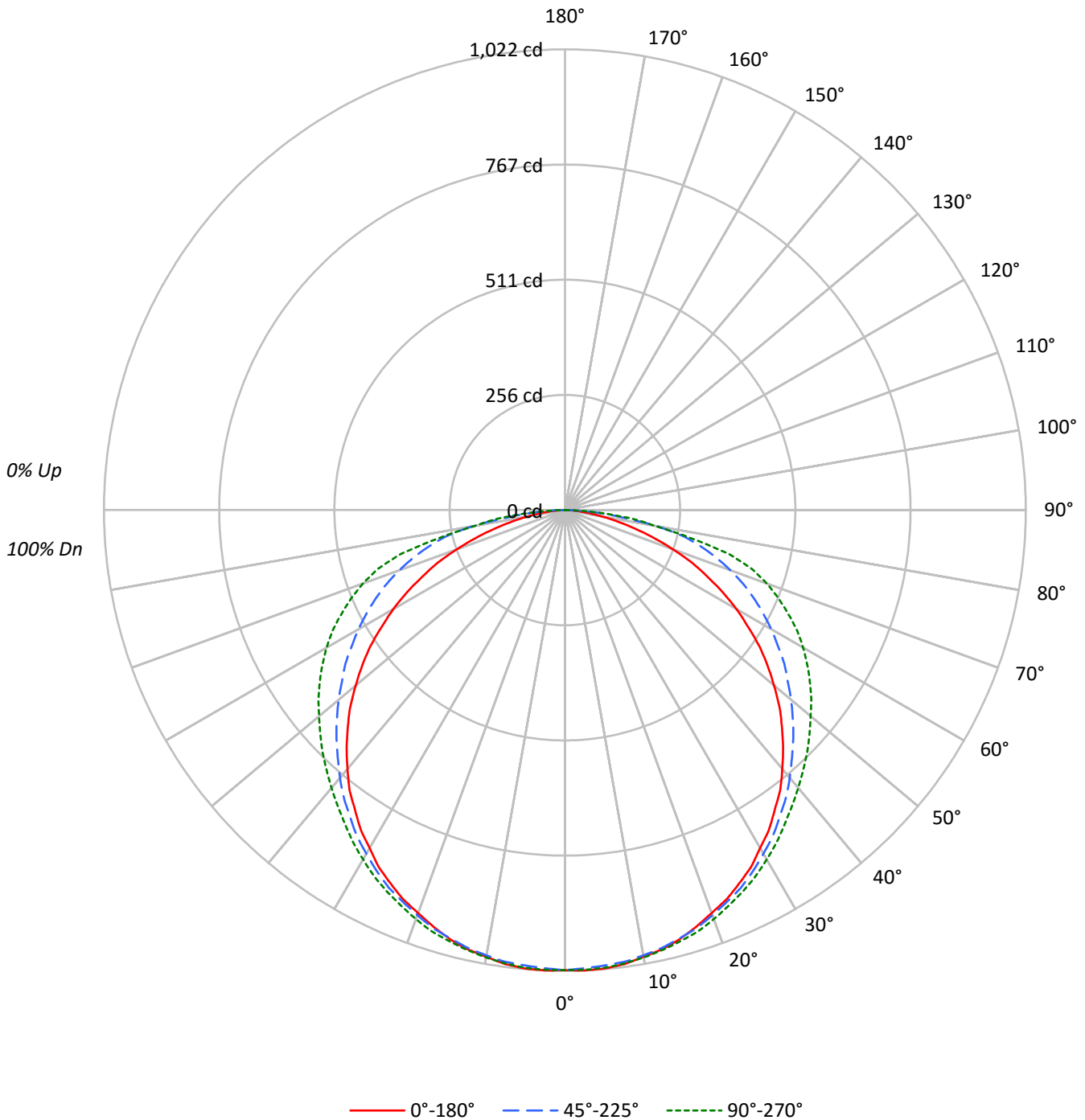
Input Watts (W): 39.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P313617

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P313617

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K

**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°	1373	1373	1373
5°	1378	1370	1376
10°	1374	1370	1377
15°	1372	1370	1379
20°	1362	1369	1383
25°	1357	1372	1386
30°	1345	1368	1390
35°	1332	1364	1396
40°	1317	1363	1414
45°	1295	1363	1446
50°	1267	1371	1489
55°	1235	1393	1555
60°	1182	1421	1641
65°	1107	1471	1742
70°	1007	1539	1874
75°	854	1624	1958
80°	673	1634	1584
85°	497	1243	1391



TEST NUMBER: P313617

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.8	3.0
10°-20°	278.6	8.6
20°-30°	426.0	13.1
30°-40°	520.8	16.0
40°-50°	555.1	17.1
50°-60°	530.7	16.4
60°-70°	449.6	13.9
70°-80°	302.2	9.3
80°-90°	85.2	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°	801.4	24.7
0°-40°	1322.2	40.7
0°-60°	2408.0	74.2
0°-90°	3245.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3245.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1020	1020	1020	1020	1020	
5°	1020	1019	1014	1019	1019	97
15°	985	985	983	992	990	278
25°	914	917	924	932	934	421
35°	811	818	830	847	850	508
45°	681	692	716	747	760	525
55°	526	546	594	641	663	469
65°	348	383	462	523	547	345
75°	164	224	312	365	377	176
85°	32	66	80	87	90	40
90°	0	0	0	0	0	



TEST NUMBER: P313617

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-RDP-CA08-W2A-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1020.5	1020.5	1020.5	1020.5	1020.5
2.5°	1022.1	1022.1	1017.2	1020.5	1020.5
5°	1020.5	1018.9	1014.0	1018.9	1018.9
7.5°	1015.6	1014.0	1010.8	1015.6	1014.0
10°	1006.0	1006.0	1002.8	1007.6	1007.6
12.5°	997.9	996.3	994.7	1001.1	999.5
15°	985.0	985.0	983.4	991.5	989.9
17.5°	969.0	970.6	972.2	978.6	980.2
20°	951.2	954.5	956.1	965.7	965.7
22.5°	935.2	936.8	940.0	949.6	949.6
25°	914.2	917.4	923.9	931.9	933.5
27.5°	893.3	894.9	903.0	914.2	915.8
30°	865.9	870.8	880.4	893.3	894.9
32.5°	841.8	846.6	857.9	870.8	874.0
35°	811.2	817.7	830.5	846.6	849.8
37.5°	783.9	788.7	804.8	822.5	827.3
40°	750.1	759.7	775.8	796.7	804.8
42.5°	716.3	725.9	745.2	772.6	782.2
45°	680.8	692.1	716.3	746.8	759.7
47.5°	645.4	658.3	685.7	721.1	735.6
50°	605.2	621.3	655.1	695.3	711.4
52.5°	566.6	585.9	622.9	668.0	688.9
55°	526.3	545.6	593.9	640.6	663.1
57.5°	481.3	507.0	560.1	613.2	637.4
60°	439.4	463.6	527.9	585.9	610.0
62.5°	394.3	426.5	495.7	556.9	581.1
65°	347.7	383.1	461.9	523.1	547.2
67.5°	305.8	344.4	428.1	489.3	513.4
70°	255.9	304.2	391.1	452.3	476.4
72.5°	209.2	262.4	352.5	412.0	434.6
75°	164.2	223.7	312.3	365.4	376.6
77.5°	122.3	185.1	270.4	292.9	284.9
80°	86.9	148.1	210.9	199.6	204.4
82.5°	56.3	112.7	130.4	148.1	152.9
85°	32.2	66.0	80.5	86.9	90.1
87.5°	14.5	24.1	32.2	32.2	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)