

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: P309460

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-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: P309460  
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: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 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: 3236.0 lumens  
Efficiency: N/A  
Efficacy: 84.1 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

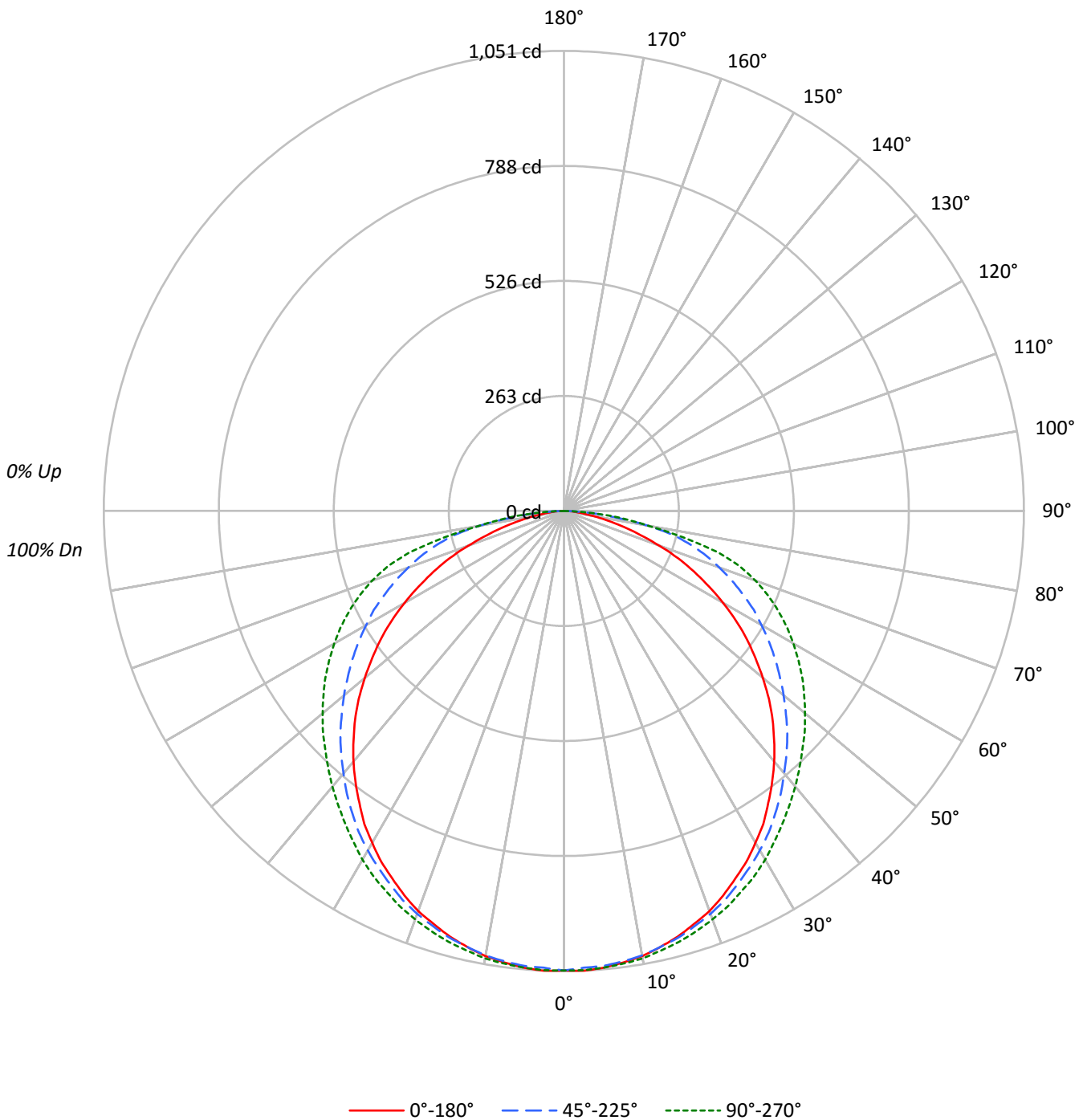
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P309460

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P309460

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1413	1413	1413
5°	1414	1409	1414
10°	1410	1409	1418
15°	1402	1406	1419
20°	1393	1402	1422
25°	1376	1396	1424
30°	1360	1391	1429
35°	1337	1384	1431
40°	1313	1375	1444
45°	1284	1374	1467
50°	1242	1373	1506
55°	1198	1382	1560
60°	1130	1404	1630
65°	1044	1436	1721
70°	911	1487	1833
75°	739	1564	1894
80°	545	1533	1533
85°	418	1130	1275



TEST NUMBER: P309460

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.5	3.1
10°-20°	285.6	8.8
20°-30°	434.8	13.4
30°-40°	528.0	16.3
40°-50°	557.8	17.2
50°-60°	526.3	16.3
60°-70°	437.6	13.5
70°-80°	287.9	8.9
80°-90°	78.5	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°	819.9	25.3
0°-40°	1347.9	41.7
0°-60°	2432.0	75.2
0°-90°	3236.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3236.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1050	1050	1050	1050	1050	
5°	1047	1047	1043	1047	1047	99
15°	1007	1008	1009	1019	1019	284
25°	927	932	940	956	959	427
35°	814	824	843	864	871	510
45°	675	688	722	757	771	520
55°	511	532	589	645	665	455
65°	328	366	451	518	540	324
75°	142	207	301	356	364	153
85°	27	60	73	81	83	33
90°	0	0	0	0	0	



TEST NUMBER: P309460

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1049.9	1049.9	1049.9	1049.9	1049.9
2.5°	1051.3	1049.9	1044.5	1049.9	1049.9
5°	1047.2	1047.2	1043.1	1047.2	1047.2
7.5°	1040.4	1040.4	1037.7	1043.1	1043.1
10°	1032.3	1032.3	1031.0	1037.7	1037.7
12.5°	1020.1	1021.5	1020.1	1028.2	1028.2
15°	1006.6	1007.9	1009.3	1018.8	1018.8
17.5°	989.0	991.7	994.4	1005.2	1006.6
20°	972.7	974.1	979.5	991.7	993.0
22.5°	951.0	955.1	961.9	974.1	978.1
25°	926.6	932.1	940.2	956.4	959.2
27.5°	903.6	907.7	918.5	936.1	941.5
30°	875.2	881.9	895.5	913.1	919.9
32.5°	848.1	854.8	871.1	890.1	895.5
35°	814.2	823.7	842.6	864.3	871.1
37.5°	781.7	791.2	814.2	838.6	846.7
40°	747.8	758.7	783.0	811.5	822.3
42.5°	711.2	726.1	753.2	784.4	796.6
45°	674.7	688.2	722.1	757.3	770.8
47.5°	635.4	651.6	688.2	730.2	746.5
50°	593.4	613.7	655.7	701.8	719.4
52.5°	551.4	574.4	621.8	673.3	692.3
55°	510.7	532.4	589.3	644.9	665.2
57.5°	466.0	493.1	555.4	615.1	635.4
60°	420.0	449.8	521.6	583.9	605.6
62.5°	373.9	407.8	489.1	551.4	574.4
65°	327.8	365.8	451.1	517.5	540.5
67.5°	283.1	325.1	415.9	482.3	505.3
70°	231.7	284.5	378.0	443.0	466.0
72.5°	184.2	245.2	341.4	402.4	422.7
75°	142.2	207.3	300.8	356.3	364.4
77.5°	104.3	169.3	258.8	277.7	279.1
80°	70.4	135.5	197.8	195.1	197.8
82.5°	46.1	101.6	124.6	139.5	140.9
85°	27.1	59.6	73.2	81.3	82.6
87.5°	13.5	20.3	25.7	27.1	29.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)