

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: P309232

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K**

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: P309232  
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: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3500K 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**

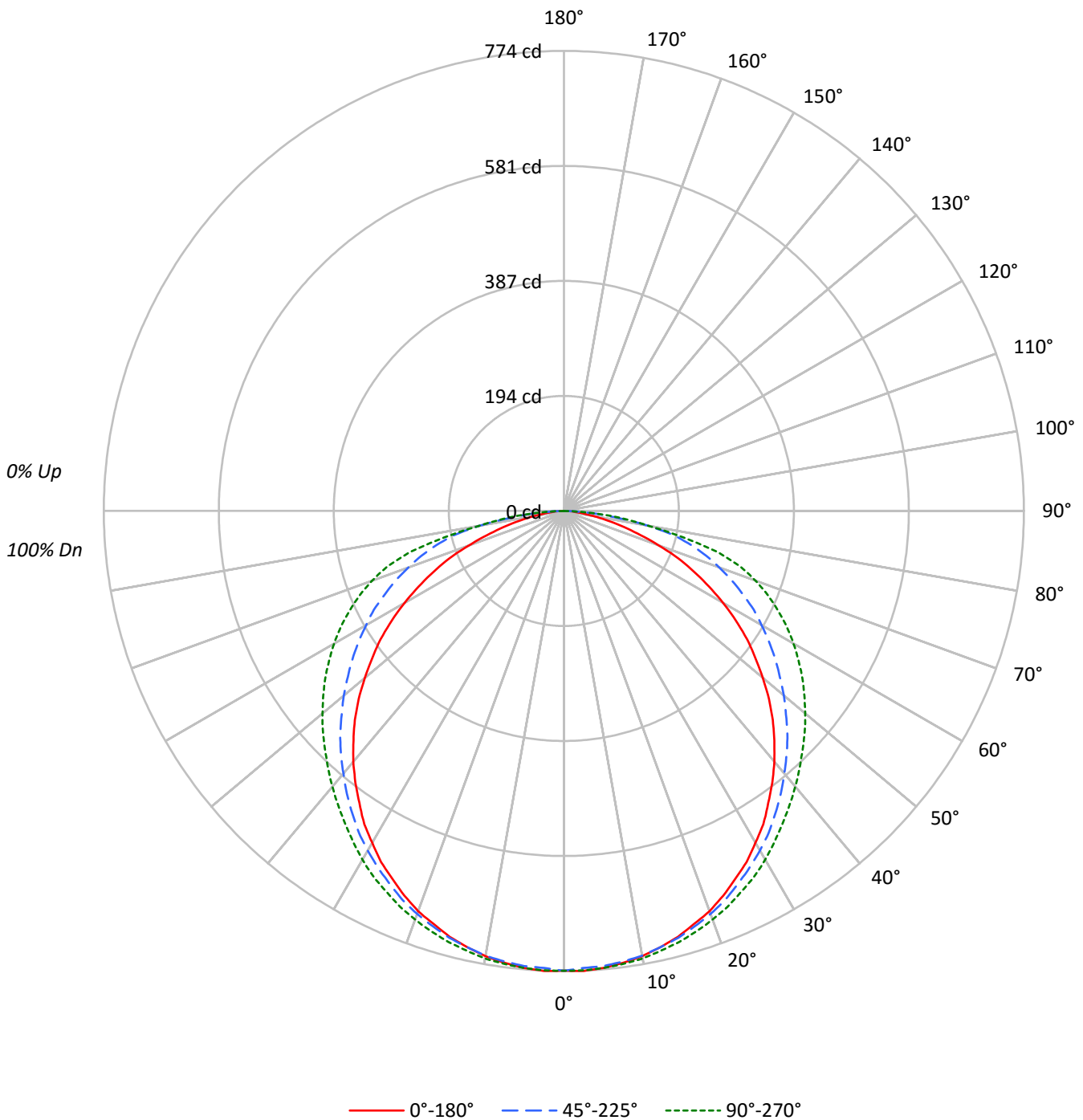
Lumens per Lamp: N/A  
Luminaire Lumens: 2384.0 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 26.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P309232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P309232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K

**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°	1041	1041	1041
5°	1042	1038	1042
10°	1039	1038	1044
15°	1033	1036	1045
20°	1026	1033	1048
25°	1014	1028	1049
30°	1002	1025	1053
35°	985	1020	1054
40°	968	1013	1064
45°	946	1012	1081
50°	915	1011	1109
55°	883	1019	1149
60°	833	1034	1200
65°	769	1058	1268
70°	672	1096	1351
75°	545	1152	1396
80°	402	1129	1129
85°	309	832	940



TEST NUMBER: P309232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.3	3.1
10°-20°	210.4	8.8
20°-30°	320.3	13.4
30°-40°	389.0	16.3
40°-50°	410.9	17.2
50°-60°	387.8	16.3
60°-70°	322.4	13.5
70°-80°	212.1	8.9
80°-90°	57.8	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°	604.0	25.3
0°-40°	993.0	41.7
0°-60°	1791.7	75.2
0°-90°	2384.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2384.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	772	772	768	772	772	73
15°	742	743	744	750	750	209
25°	683	687	693	705	707	315
35°	600	607	621	637	642	375
45°	497	507	532	558	568	383
55°	376	392	434	475	490	335
65°	242	270	332	381	398	239
75°	105	153	222	262	268	113
85°	20	44	54	60	61	24
90°	0	0	0	0	0	



TEST NUMBER: P309232

CATALOG NUMBER: 24FCZ2-35HE-UNV-L82765-HRP-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	773.5	773.5	773.5	773.5	773.5
2.5°	774.5	773.5	769.5	773.5	773.5
5°	771.5	771.5	768.5	771.5	771.5
7.5°	766.5	766.5	764.5	768.5	768.5
10°	760.5	760.5	759.5	764.5	764.5
12.5°	751.5	752.5	751.5	757.5	757.5
15°	741.6	742.6	743.5	750.5	750.5
17.5°	728.6	730.6	732.6	740.6	741.6
20°	716.6	717.6	721.6	730.6	731.6
22.5°	700.6	703.6	708.6	717.6	720.6
25°	682.7	686.7	692.6	704.6	706.6
27.5°	665.7	668.7	676.7	689.7	693.6
30°	644.7	649.7	659.7	672.7	677.7
32.5°	624.8	629.8	641.7	655.7	659.7
35°	599.8	606.8	620.8	636.8	641.7
37.5°	575.9	582.9	599.8	617.8	623.8
40°	550.9	558.9	576.9	597.8	605.8
42.5°	524.0	535.0	554.9	577.9	586.9
45°	497.0	507.0	532.0	557.9	567.9
47.5°	468.1	480.1	507.0	538.0	549.9
50°	437.1	452.1	483.1	517.0	530.0
52.5°	406.2	423.2	458.1	496.0	510.0
55°	376.3	392.2	434.2	475.1	490.0
57.5°	343.3	363.3	409.2	453.1	468.1
60°	309.4	331.4	384.3	430.2	446.1
62.5°	275.5	300.4	360.3	406.2	423.2
65°	241.5	269.5	332.4	381.3	398.2
67.5°	208.6	239.5	306.4	355.3	372.3
70°	170.7	209.6	278.5	326.4	343.3
72.5°	135.7	180.6	251.5	296.4	311.4
75°	104.8	152.7	221.6	262.5	268.5
77.5°	76.9	124.8	190.6	204.6	205.6
80°	51.9	99.8	145.7	143.7	145.7
82.5°	33.9	74.9	91.8	102.8	103.8
85°	20.0	43.9	53.9	59.9	60.9
87.5°	10.0	15.0	19.0	20.0	22.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)