

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: P309997

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-RDP-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: P309997  
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: 24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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**

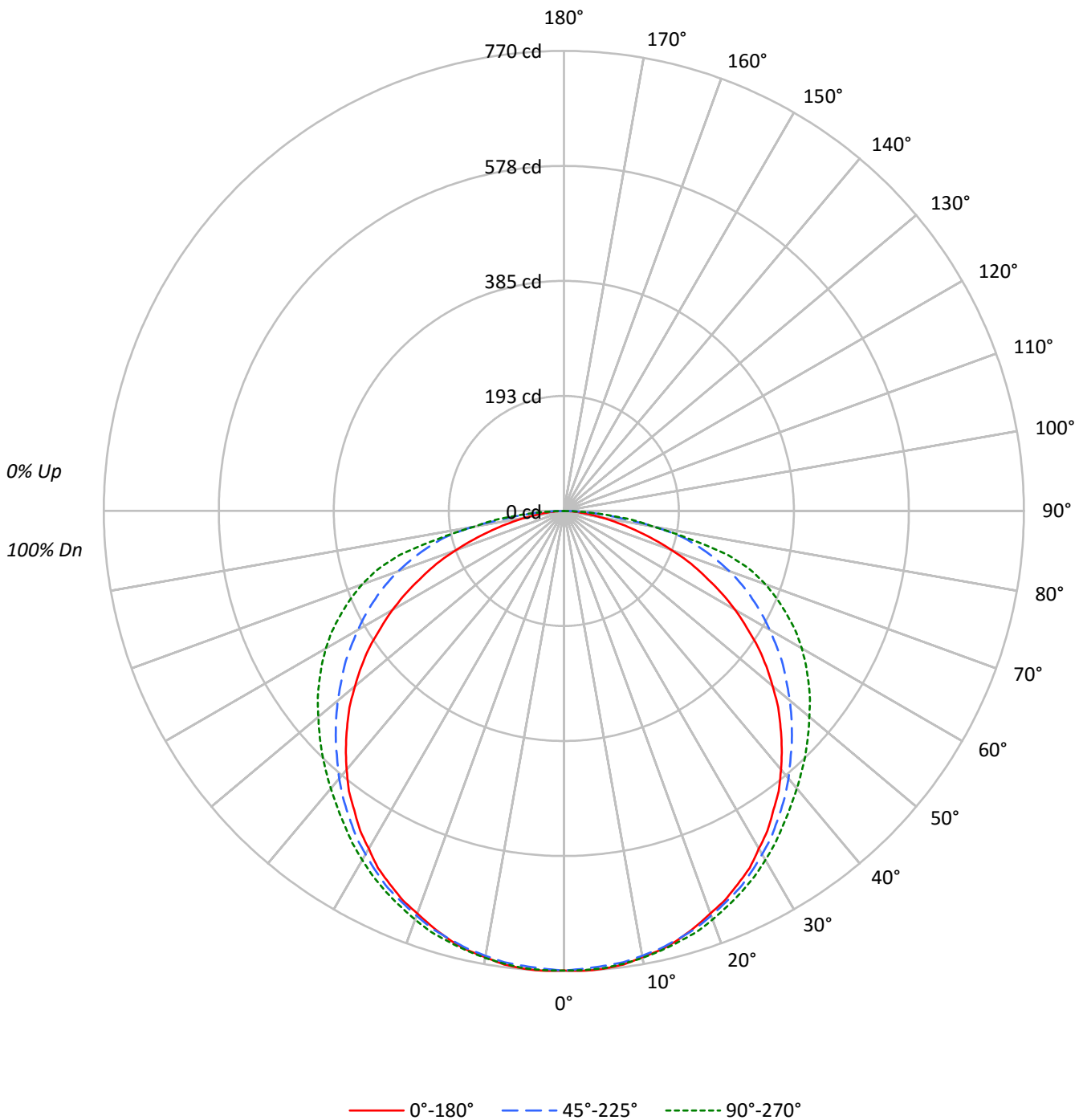
Lumens per Lamp: N/A  
Luminaire Lumens: 2446.0 lumens  
Efficiency: N/A  
Efficacy: 80.2 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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: P309997

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P309997

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-RDP-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	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	68	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°	1035	1035	1035
5°	1039	1032	1037
10°	1036	1033	1038
15°	1034	1033	1039
20°	1027	1032	1042
25°	1023	1034	1045
30°	1014	1031	1048
35°	1004	1028	1052
40°	993	1027	1065
45°	977	1027	1090
50°	955	1034	1123
55°	931	1050	1173
60°	891	1071	1237
65°	834	1109	1313
70°	759	1160	1413
75°	644	1224	1476
80°	508	1231	1194
85°	375	937	1048



TEST NUMBER: P309997

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.0	3.0
10°-20°	210.0	8.6
20°-30°	321.1	13.1
30°-40°	392.6	16.0
40°-50°	418.4	17.1
50°-60°	400.0	16.4
60°-70°	338.9	13.9
70°-80°	227.8	9.3
80°-90°	64.2	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°	604.1	24.7
0°-40°	996.7	40.7
0°-60°	1815.1	74.2
0°-90°	2446.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2446.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	769	769	769	769	769	
5°	769	768	764	768	768	73
15°	742	742	741	747	746	209
25°	689	692	696	702	704	318
35°	612	616	626	638	641	383
45°	513	522	540	563	573	396
55°	397	411	448	483	500	353
65°	262	289	348	394	412	260
75°	124	169	235	275	284	133
85°	24	50	61	66	68	30
90°	0	0	0	0	0	



TEST NUMBER: P309997

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	769.2	769.2	769.2	769.2	769.2
2.5°	770.4	770.4	766.8	769.2	769.2
5°	769.2	768.0	764.3	768.0	768.0
7.5°	765.6	764.3	761.9	765.6	764.3
10°	758.3	758.3	755.9	759.5	759.5
12.5°	752.2	751.0	749.8	754.6	753.4
15°	742.5	742.5	741.3	747.4	746.1
17.5°	730.4	731.6	732.8	737.7	738.9
20°	717.0	719.5	720.7	727.9	727.9
22.5°	704.9	706.1	708.5	715.8	715.8
25°	689.1	691.5	696.4	702.5	703.7
27.5°	673.4	674.6	680.6	689.1	690.3
30°	652.7	656.4	663.6	673.4	674.6
32.5°	634.5	638.2	646.7	656.4	658.8
35°	611.5	616.3	626.0	638.2	640.6
37.5°	590.9	594.5	606.6	620.0	623.6
40°	565.4	572.7	584.8	600.6	606.6
42.5°	539.9	547.2	561.7	582.4	589.6
45°	513.2	521.7	539.9	562.9	572.7
47.5°	486.5	496.2	516.8	543.5	554.5
50°	456.2	468.3	493.8	524.1	536.3
52.5°	427.1	441.6	469.5	503.5	519.3
55°	396.7	411.3	447.7	482.9	499.9
57.5°	362.8	382.2	422.2	462.2	480.4
60°	331.2	349.4	397.9	441.6	459.8
62.5°	297.2	321.5	373.7	419.8	438.0
65°	262.1	288.8	348.2	394.3	412.5
67.5°	230.5	259.6	322.7	368.8	387.0
70°	192.9	229.3	294.8	340.9	359.1
72.5°	157.7	197.8	265.7	310.6	327.6
75°	123.8	168.6	235.4	275.4	283.9
77.5°	92.2	139.5	203.8	220.8	214.7
80°	65.5	111.6	158.9	150.4	154.1
82.5°	42.5	84.9	98.3	111.6	115.3
85°	24.3	49.7	60.7	65.5	67.9
87.5°	10.9	18.2	24.3	24.3	23.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)