

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: P313481

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-RDP-CP187-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: P313481  
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: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB 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: 2025.0 lumens  
Efficiency: N/A  
Efficacy: 77.9 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

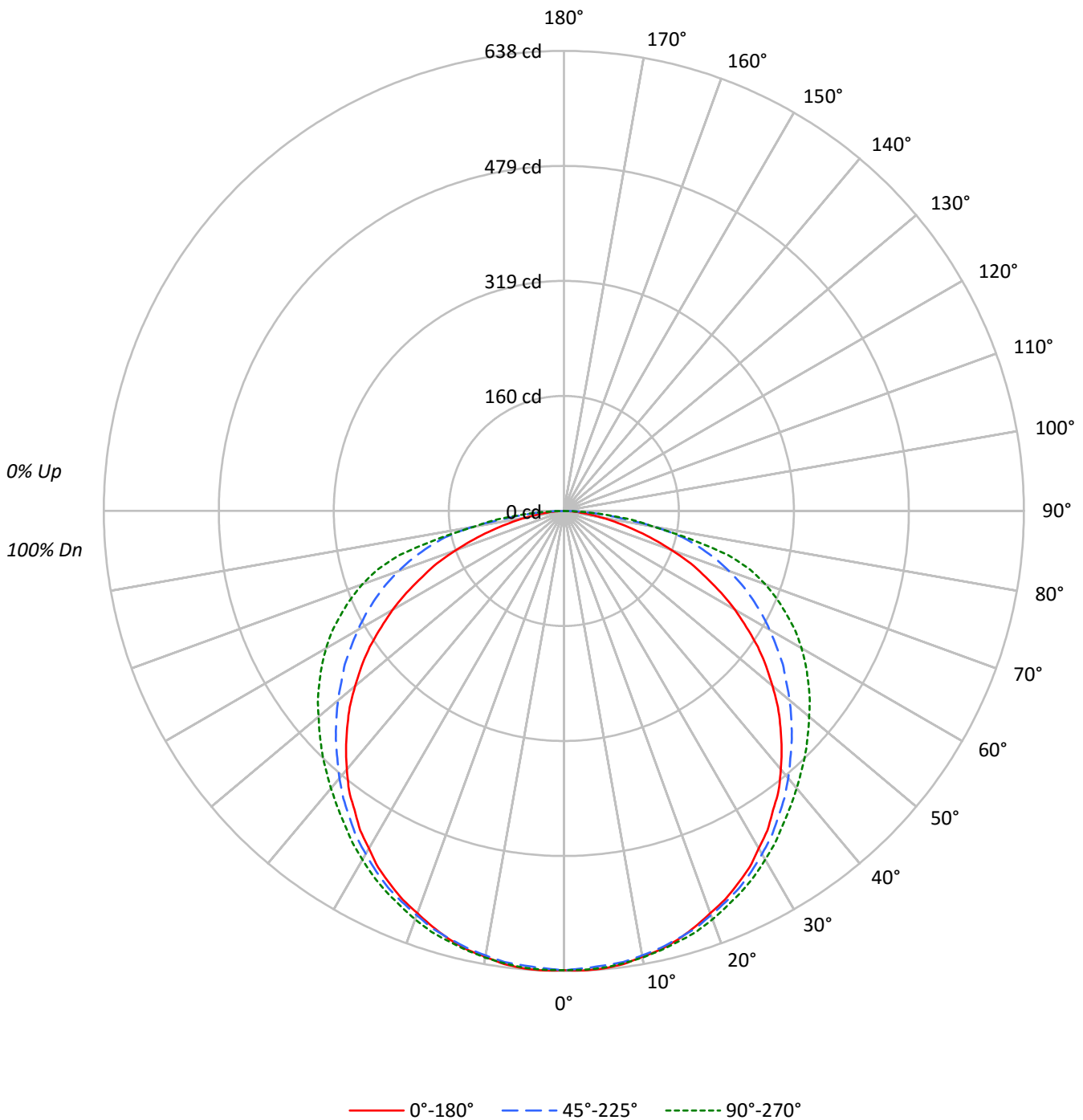
Input Watts (W): 26  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P313481

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P313481

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-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°	857	857	857
5°	860	855	859
10°	858	855	859
15°	856	855	860
20°	850	854	863
25°	847	856	865
30°	840	854	868
35°	831	851	871
40°	822	850	882
45°	809	851	902
50°	791	856	929
55°	770	869	971
60°	738	887	1024
65°	691	918	1087
70°	628	960	1170
75°	533	1013	1222
80°	420	1020	989
85°	310	775	868



TEST NUMBER: P313481

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.4	3.0
10°-20°	173.9	8.6
20°-30°	265.9	13.1
30°-40°	325.0	16.0
40°-50°	346.4	17.1
50°-60°	331.2	16.4
60°-70°	280.6	13.9
70°-80°	188.6	9.3
80°-90°	53.2	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°	500.1	24.7
0°-40°	825.1	40.7
0°-60°	1502.7	74.2
0°-90°	2025.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2025.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	637	637	637	637	637	
5°	637	636	633	636	636	61
15°	615	615	614	619	618	173
25°	570	572	576	582	583	263
35°	506	510	518	528	530	317
45°	425	432	447	466	474	328
55°	328	340	371	400	414	293
65°	217	239	288	326	342	215
75°	102	140	195	228	235	110
85°	20	41	50	54	56	25
90°	0	0	0	0	0	



TEST NUMBER: P313481

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	636.8	636.8	636.8	636.8	636.8
2.5°	637.8	637.8	634.8	636.8	636.8
5°	636.8	635.8	632.8	635.8	635.8
7.5°	633.8	632.8	630.8	633.8	632.8
10°	627.8	627.8	625.8	628.8	628.8
12.5°	622.7	621.7	620.7	624.8	623.7
15°	614.7	614.7	613.7	618.7	617.7
17.5°	604.7	605.7	606.7	610.7	611.7
20°	593.6	595.6	596.6	602.7	602.7
22.5°	583.6	584.6	586.6	592.6	592.6
25°	570.5	572.5	576.5	581.6	582.6
27.5°	557.5	558.5	563.5	570.5	571.5
30°	540.4	543.4	549.4	557.5	558.5
32.5°	525.3	528.3	535.4	543.4	545.4
35°	506.2	510.2	518.3	528.3	530.3
37.5°	489.2	492.2	502.2	513.3	516.3
40°	468.1	474.1	484.1	497.2	502.2
42.5°	447.0	453.0	465.0	482.1	488.1
45°	424.9	431.9	447.0	466.1	474.1
47.5°	402.8	410.8	427.9	450.0	459.0
50°	377.7	387.7	408.8	433.9	444.0
52.5°	353.6	365.6	388.7	416.8	429.9
55°	328.4	340.5	370.6	399.8	413.8
57.5°	300.3	316.4	349.5	382.7	397.8
60°	274.2	289.3	329.5	365.6	380.7
62.5°	246.1	266.2	309.4	347.5	362.6
65°	217.0	239.1	288.3	326.4	341.5
67.5°	190.8	214.9	267.2	305.3	320.4
70°	159.7	189.8	244.1	282.2	297.3
72.5°	130.6	163.7	220.0	257.1	271.2
75°	102.5	139.6	194.9	228.0	235.0
77.5°	76.3	115.5	168.7	182.8	177.8
80°	54.2	92.4	131.6	124.5	127.6
82.5°	35.2	70.3	81.4	92.4	95.4
85°	20.1	41.2	50.2	54.2	56.2
87.5°	9.0	15.1	20.1	20.1	19.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)