

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: P313484

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-RDP-CP187-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: P313484
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2146.0 lumens
Efficiency: N/A
Efficacy: 78.6 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

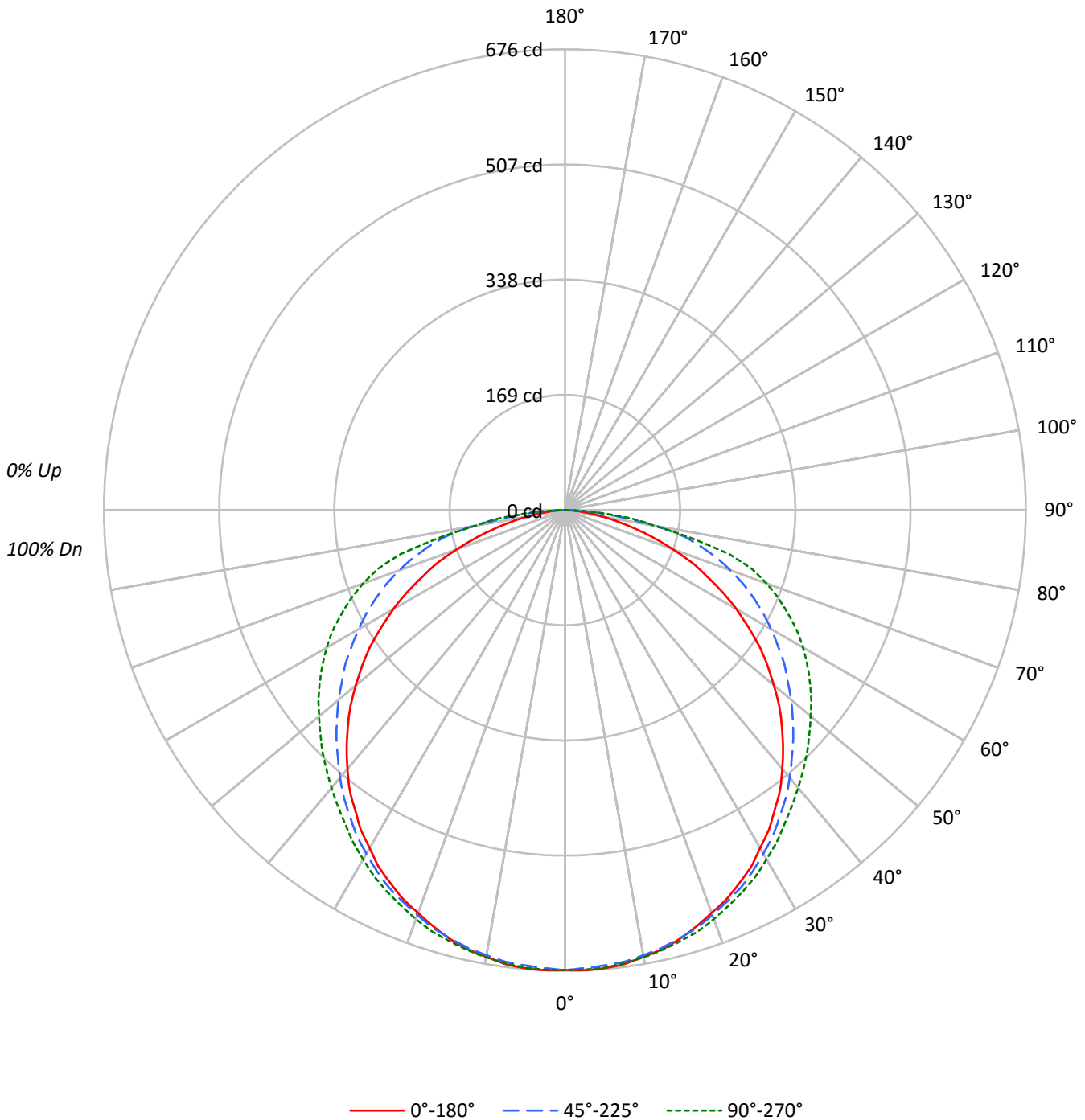
Input Watts (W): 27.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313484

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P313484

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-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	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°	908	908	908
5°	912	906	910
10°	909	906	910
15°	907	906	912
20°	901	905	915
25°	898	907	917
30°	890	905	919
35°	881	902	923
40°	871	901	935
45°	857	901	956
50°	838	907	985
55°	817	921	1029
60°	782	939	1086
65°	732	973	1152
70°	666	1018	1240
75°	565	1074	1295
80°	446	1080	1048
85°	329	821	920



TEST NUMBER: P313484

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.0	3.0
10°-20°	184.2	8.6
20°-30°	281.7	13.1
30°-40°	344.4	16.0
40°-50°	367.1	17.1
50°-60°	351.0	16.4
60°-70°	297.3	13.9
70°-80°	199.8	9.3
80°-90°	56.4	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°	530.0	24.7
0°-40°	874.4	40.7
0°-60°	1592.5	74.2
0°-90°	2146.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2146.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	675	675	675	675	675	
5°	675	674	671	674	674	64
15°	651	651	650	656	655	184
25°	605	607	611	616	617	279
35°	536	541	549	560	562	336
45°	450	458	474	494	502	347
55°	348	361	393	424	438	310
65°	230	253	306	346	362	228
75°	109	148	206	242	249	116
85°	21	44	53	58	60	26
90°	0	0	0	0	0	



TEST NUMBER: P313484

CATALOG NUMBER: 24FCZ2-35HE-UNV-L83050-RDP-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	674.9	674.9	674.9	674.9	674.9
2.5°	675.9	675.9	672.7	674.9	674.9
5°	674.9	673.8	670.6	673.8	673.8
7.5°	671.7	670.6	668.5	671.7	670.6
10°	665.3	665.3	663.1	666.3	666.3
12.5°	660.0	658.9	657.8	662.1	661.0
15°	651.4	651.4	650.4	655.7	654.6
17.5°	640.8	641.9	642.9	647.2	648.2
20°	629.1	631.2	632.3	638.7	638.7
22.5°	618.4	619.5	621.6	628.0	628.0
25°	604.6	606.7	611.0	616.3	617.4
27.5°	590.8	591.8	597.2	604.6	605.7
30°	572.7	575.9	582.2	590.8	591.8
32.5°	556.7	559.9	567.3	575.9	578.0
35°	536.5	540.7	549.3	559.9	562.0
37.5°	518.4	521.6	532.2	543.9	547.1
40°	496.0	502.4	513.1	526.9	532.2
42.5°	473.7	480.1	492.8	510.9	517.3
45°	450.3	457.7	473.7	493.9	502.4
47.5°	426.8	435.4	453.5	476.9	486.4
50°	400.2	410.9	433.2	459.8	470.5
52.5°	374.7	387.5	411.9	441.7	455.6
55°	348.1	360.8	392.8	423.6	438.5
57.5°	318.3	335.3	370.4	405.6	421.5
60°	290.6	306.6	349.1	387.5	403.4
62.5°	260.8	282.1	327.8	368.3	384.3
65°	229.9	253.3	305.5	345.9	361.9
67.5°	202.2	227.8	283.1	323.6	339.6
70°	169.2	201.2	258.7	299.1	315.1
72.5°	138.4	173.5	233.1	272.5	287.4
75°	108.6	148.0	206.5	241.6	249.1
77.5°	80.9	122.4	178.8	193.7	188.4
80°	57.5	97.9	139.4	132.0	135.2
82.5°	37.3	74.5	86.2	97.9	101.1
85°	21.3	43.6	53.2	57.5	59.6
87.5°	9.6	16.0	21.3	21.3	20.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)