

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: P313106

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-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: P313106  
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-L83050-HRP-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2339.0 lumens  
Efficiency: N/A  
Efficacy: 90.0 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

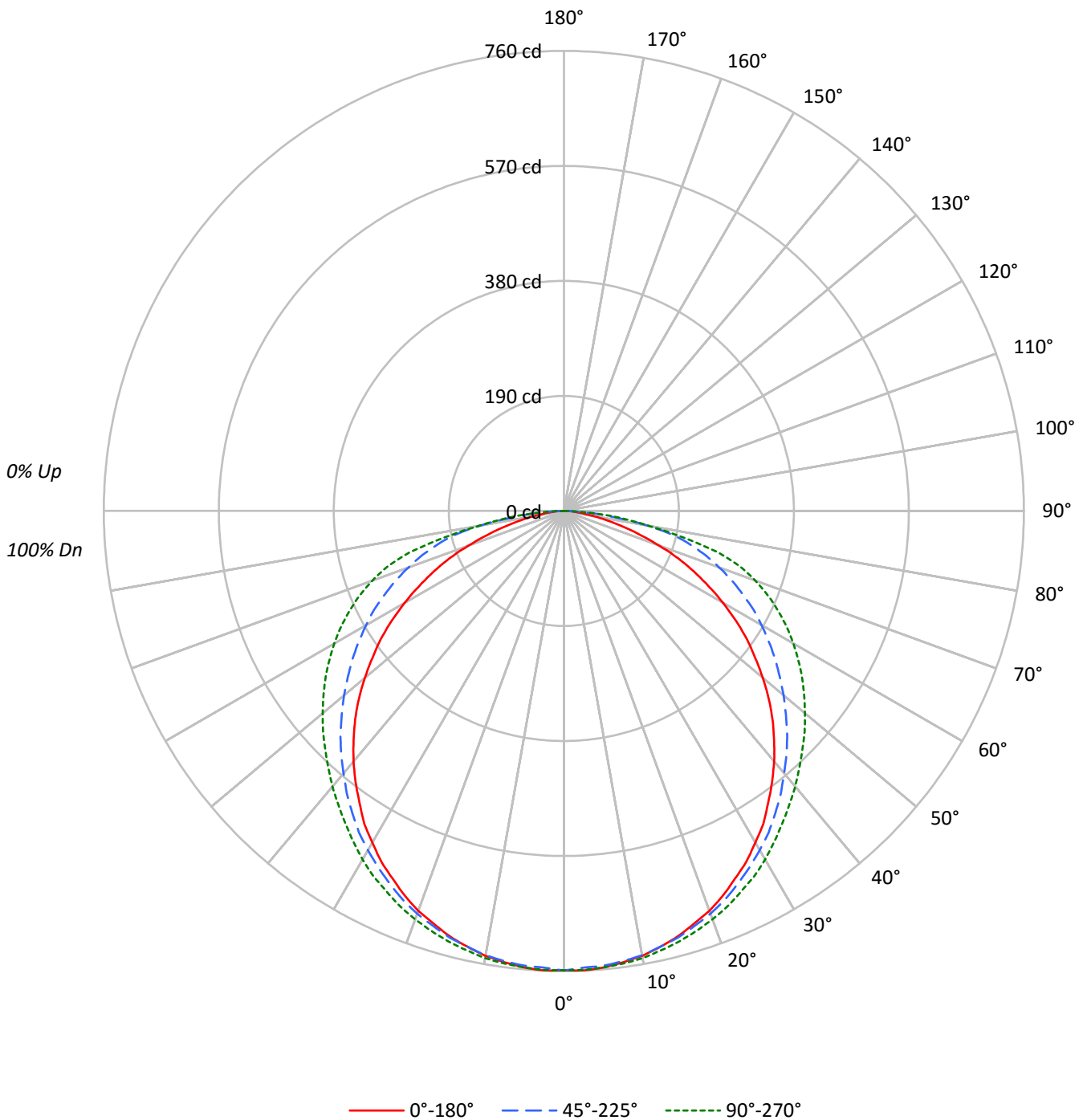
Input Watts (W): 26  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**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°	1021	1021	1021
5°	1022	1018	1022
10°	1019	1018	1025
15°	1014	1016	1026
20°	1007	1014	1028
25°	994	1009	1029
30°	983	1006	1033
35°	967	1000	1034
40°	949	994	1044
45°	928	993	1060
50°	898	992	1088
55°	866	999	1128
60°	817	1014	1178
65°	755	1038	1244
70°	659	1075	1325
75°	534	1130	1369
80°	394	1108	1108
85°	303	817	922



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.9	3.1
10°-20°	206.4	8.8
20°-30°	314.3	13.4
30°-40°	381.6	16.3
40°-50°	403.2	17.2
50°-60°	380.4	16.3
60°-70°	316.3	13.5
70°-80°	208.1	8.9
80°-90°	56.7	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°	592.6	25.3
0°-40°	974.2	41.7
0°-60°	1757.9	75.2
0°-90°	2339.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2339.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	759	759	759	759	759	
5°	757	757	754	757	757	72
15°	728	728	730	736	736	205
25°	670	674	680	691	693	309
35°	588	595	609	625	630	368
45°	488	497	522	547	557	376
55°	369	385	426	466	481	329
65°	237	264	326	374	391	234
75°	103	150	217	258	263	111
85°	20	43	53	59	60	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	758.9	758.9	758.9	758.9	758.9
2.5°	759.9	758.9	755.0	758.9	758.9
5°	756.9	756.9	754.0	756.9	756.9
7.5°	752.0	752.0	750.1	754.0	754.0
10°	746.2	746.2	745.2	750.1	750.1
12.5°	737.3	738.3	737.3	743.2	743.2
15°	727.6	728.5	729.5	736.4	736.4
17.5°	714.8	716.8	718.7	726.6	727.6
20°	703.1	704.1	708.0	716.8	717.8
22.5°	687.4	690.3	695.2	704.1	707.0
25°	669.8	673.7	679.6	691.3	693.3
27.5°	653.1	656.1	663.9	676.6	680.6
30°	632.6	637.5	647.3	660.0	664.9
32.5°	613.0	617.9	629.6	643.3	647.3
35°	588.5	595.4	609.1	624.7	629.6
37.5°	565.0	571.9	588.5	606.1	612.0
40°	540.5	548.4	566.0	586.5	594.4
42.5°	514.1	524.9	544.4	567.0	575.8
45°	487.6	497.4	521.9	547.4	557.2
47.5°	459.3	471.0	497.4	527.8	539.5
50°	428.9	443.6	473.9	507.2	520.0
52.5°	398.5	415.2	449.5	486.7	500.4
55°	369.2	384.8	426.0	466.1	480.8
57.5°	336.8	356.4	401.5	444.6	459.3
60°	303.6	325.1	377.0	422.0	437.7
62.5°	270.3	294.7	353.5	398.5	415.2
65°	237.0	264.4	326.1	374.1	390.7
67.5°	204.7	235.0	300.6	348.6	365.2
70°	167.4	205.6	273.2	320.2	336.8
72.5°	133.2	177.2	246.8	290.8	305.5
75°	102.8	149.8	217.4	257.5	263.4
77.5°	75.4	122.4	187.0	200.7	201.7
80°	50.9	97.9	143.0	141.0	143.0
82.5°	33.3	73.4	90.1	100.9	101.8
85°	19.6	43.1	52.9	58.8	59.7
87.5°	9.8	14.7	18.6	19.6	21.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)