

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: P313110

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CP250-W2A-U-3000K**

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: P313110
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 3000K 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: 2192.0 lumens
Efficiency: N/A
Efficacy: 84.6 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

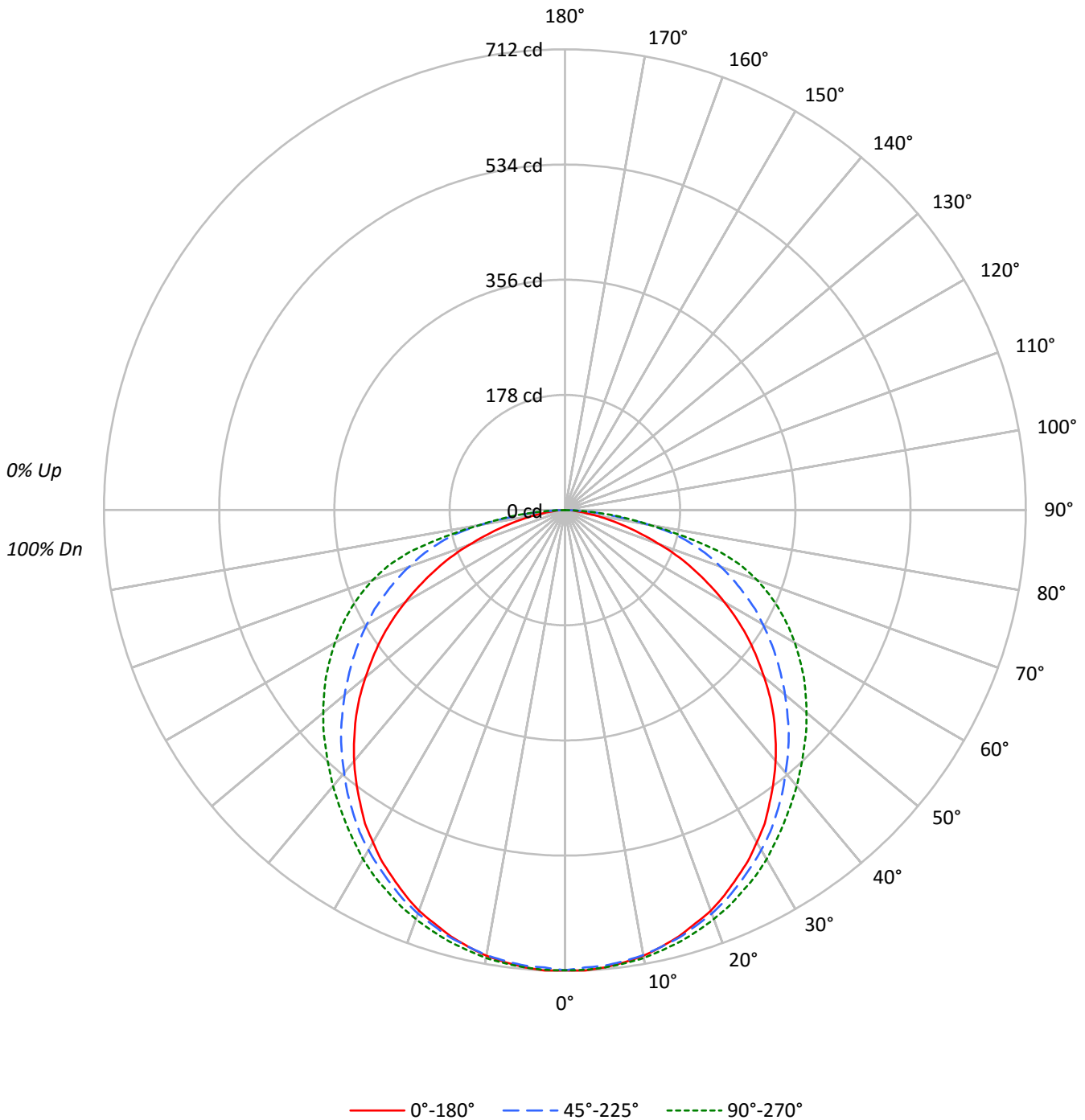
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	957	957	957
5°	958	954	958
10°	955	954	960
15°	950	952	961
20°	943	950	963
25°	932	946	965
30°	921	942	968
35°	906	938	969
40°	890	932	978
45°	870	931	994
50°	841	930	1020
55°	812	936	1057
60°	766	951	1104
65°	707	973	1166
70°	617	1007	1242
75°	501	1059	1284
80°	370	1038	1038
85°	284	766	865



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	3.1
10°-20°	193.5	8.8
20°-30°	294.5	13.4
30°-40°	357.6	16.3
40°-50°	377.8	17.2
50°-60°	356.5	16.3
60°-70°	296.4	13.5
70°-80°	195.0	8.9
80°-90°	53.2	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°	555.4	25.3
0°-40°	913.0	41.7
0°-60°	1647.4	75.2
0°-90°	2192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	709	709	707	709	709	67
15°	682	683	684	690	690	192
25°	628	631	637	648	650	290
35°	552	558	571	586	590	345
45°	457	466	489	513	522	352
55°	346	361	399	437	451	308
65°	222	248	306	351	366	220
75°	96	140	204	241	247	104
85°	18	40	50	55	56	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	711.2	711.2	711.2	711.2	711.2
2.5°	712.1	711.2	707.5	711.2	711.2
5°	709.4	709.4	706.6	709.4	709.4
7.5°	704.8	704.8	702.9	706.6	706.6
10°	699.3	699.3	698.3	702.9	702.9
12.5°	691.0	691.9	691.0	696.5	696.5
15°	681.8	682.7	683.7	690.1	690.1
17.5°	669.9	671.7	673.6	680.9	681.8
20°	658.9	659.8	663.5	671.7	672.7
22.5°	644.2	647.0	651.5	659.8	662.6
25°	627.7	631.4	636.9	647.9	649.7
27.5°	612.1	614.8	622.2	634.1	637.8
30°	592.8	597.4	606.6	618.5	623.1
32.5°	574.5	579.1	590.1	602.9	606.6
35°	551.5	557.9	570.8	585.5	590.1
37.5°	529.5	535.9	551.5	568.0	573.5
40°	506.6	513.9	530.4	549.7	557.0
42.5°	481.8	491.9	510.2	531.3	539.6
45°	457.0	466.2	489.1	513.0	522.2
47.5°	430.4	441.4	466.2	494.6	505.6
50°	401.9	415.7	444.2	475.4	487.3
52.5°	373.5	389.1	421.2	456.1	468.9
55°	346.0	360.6	399.2	436.8	450.6
57.5°	315.7	334.0	376.2	416.6	430.4
60°	284.5	304.7	353.3	395.5	410.2
62.5°	253.3	276.2	331.3	373.5	389.1
65°	222.1	247.8	305.6	350.6	366.2
67.5°	191.8	220.2	281.7	326.7	342.3
70°	156.9	192.7	256.0	300.1	315.7
72.5°	124.8	166.1	231.3	272.5	286.3
75°	96.4	140.4	203.7	241.3	246.9
77.5°	70.7	114.7	175.3	188.1	189.0
80°	47.7	91.8	134.0	132.1	134.0
82.5°	31.2	68.8	84.4	94.5	95.4
85°	18.4	40.4	49.6	55.1	56.0
87.5°	9.2	13.8	17.4	18.4	20.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)