

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: P309909

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-RDP-CA08-W2A-U-4500K**

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: P309909
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-L82765-RDP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 2198.0 lumens
Efficiency: N/A
Efficacy: 82.9 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

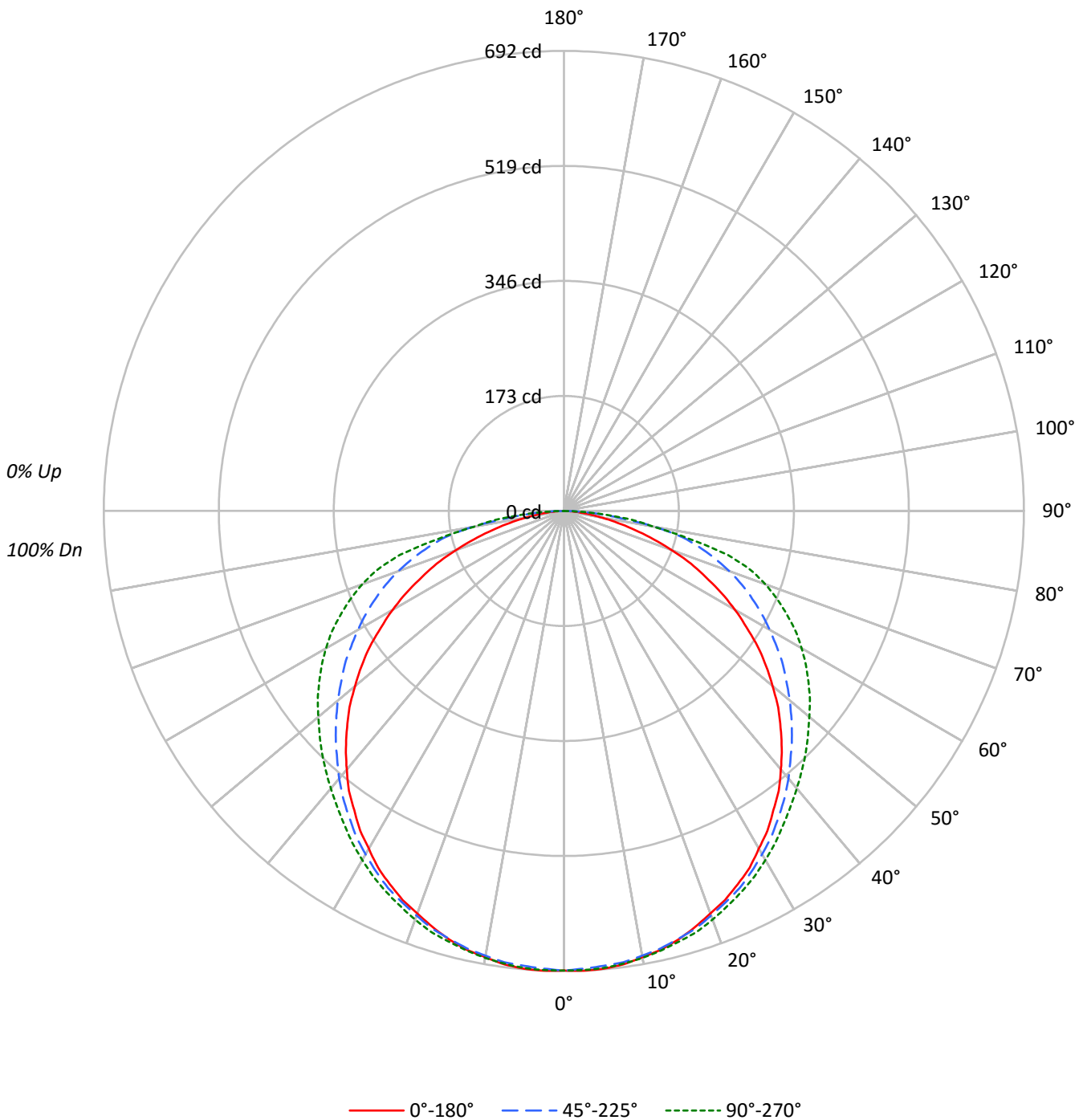
Input Watts (W): 26.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82				82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67				67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56				56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47				47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40				40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27				27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24				24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22				22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	930	930	930
5°	934	928	932
10°	931	928	932
15°	929	928	934
20°	923	927	937
25°	919	929	939
30°	911	927	942
35°	903	924	945
40°	892	923	957
45°	878	923	979
50°	858	929	1009
55°	836	944	1054
60°	801	962	1112
65°	750	996	1180
70°	682	1042	1269
75°	578	1099	1326
80°	456	1106	1073
85°	337	841	943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.6	3.0
10°-20°	188.7	8.6
20°-30°	288.6	13.1
30°-40°	352.8	16.0
40°-50°	376.0	17.1
50°-60°	359.5	16.4
60°-70°	304.5	13.9
70°-80°	204.7	9.3
80°-90°	57.7	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°	542.8	24.7
0°-40°	895.6	40.7
0°-60°	1631.1	74.2
0°-90°	2198.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2198.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	691	691	691	691	691	
5°	691	690	687	690	690	66
15°	667	667	666	672	670	188
25°	619	621	626	631	632	285
35°	550	554	563	574	576	344
45°	461	469	485	506	515	356
55°	356	370	402	434	449	318
65°	236	260	313	354	371	234
75°	111	152	212	248	255	119
85°	22	45	54	59	61	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	691.2	691.2	691.2	691.2	691.2
2.5°	692.3	692.3	689.0	691.2	691.2
5°	691.2	690.1	686.8	690.1	690.1
7.5°	687.9	686.8	684.7	687.9	686.8
10°	681.4	681.4	679.2	682.5	682.5
12.5°	675.9	674.9	673.8	678.1	677.0
15°	667.2	667.2	666.1	671.6	670.5
17.5°	656.3	657.4	658.5	662.9	664.0
20°	644.3	646.5	647.6	654.1	654.1
22.5°	633.4	634.5	636.7	643.2	643.2
25°	619.3	621.4	625.8	631.2	632.3
27.5°	605.1	606.2	611.6	619.3	620.3
30°	586.5	589.8	596.4	605.1	606.2
32.5°	570.2	573.5	581.1	589.8	592.0
35°	549.5	553.8	562.6	573.5	575.6
37.5°	530.9	534.2	545.1	557.1	560.4
40°	508.0	514.6	525.5	539.7	545.1
42.5°	485.2	491.7	504.8	523.3	529.9
45°	461.2	468.8	485.2	505.9	514.6
47.5°	437.2	445.9	464.4	488.4	498.2
50°	409.9	420.8	443.7	471.0	481.9
52.5°	383.8	396.8	421.9	452.4	466.6
55°	356.5	369.6	402.3	433.9	449.2
57.5°	326.0	343.4	379.4	415.4	431.7
60°	297.6	314.0	357.6	396.8	413.2
62.5°	267.1	288.9	335.8	377.2	393.6
65°	235.5	259.5	312.9	354.3	370.7
67.5°	207.1	233.3	290.0	331.4	347.8
70°	173.3	206.1	264.9	306.4	322.7
72.5°	141.7	177.7	238.8	279.1	294.4
75°	111.2	151.5	211.5	247.5	255.1
77.5°	82.9	125.4	183.2	198.4	193.0
80°	58.9	100.3	142.8	135.2	138.5
82.5°	38.2	76.3	88.3	100.3	103.6
85°	21.8	44.7	54.5	58.9	61.1
87.5°	9.8	16.4	21.8	21.8	20.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)