

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: P313090

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CA08-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: P313090
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2362.0 lumens
Efficiency: N/A
Efficacy: 91.2 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

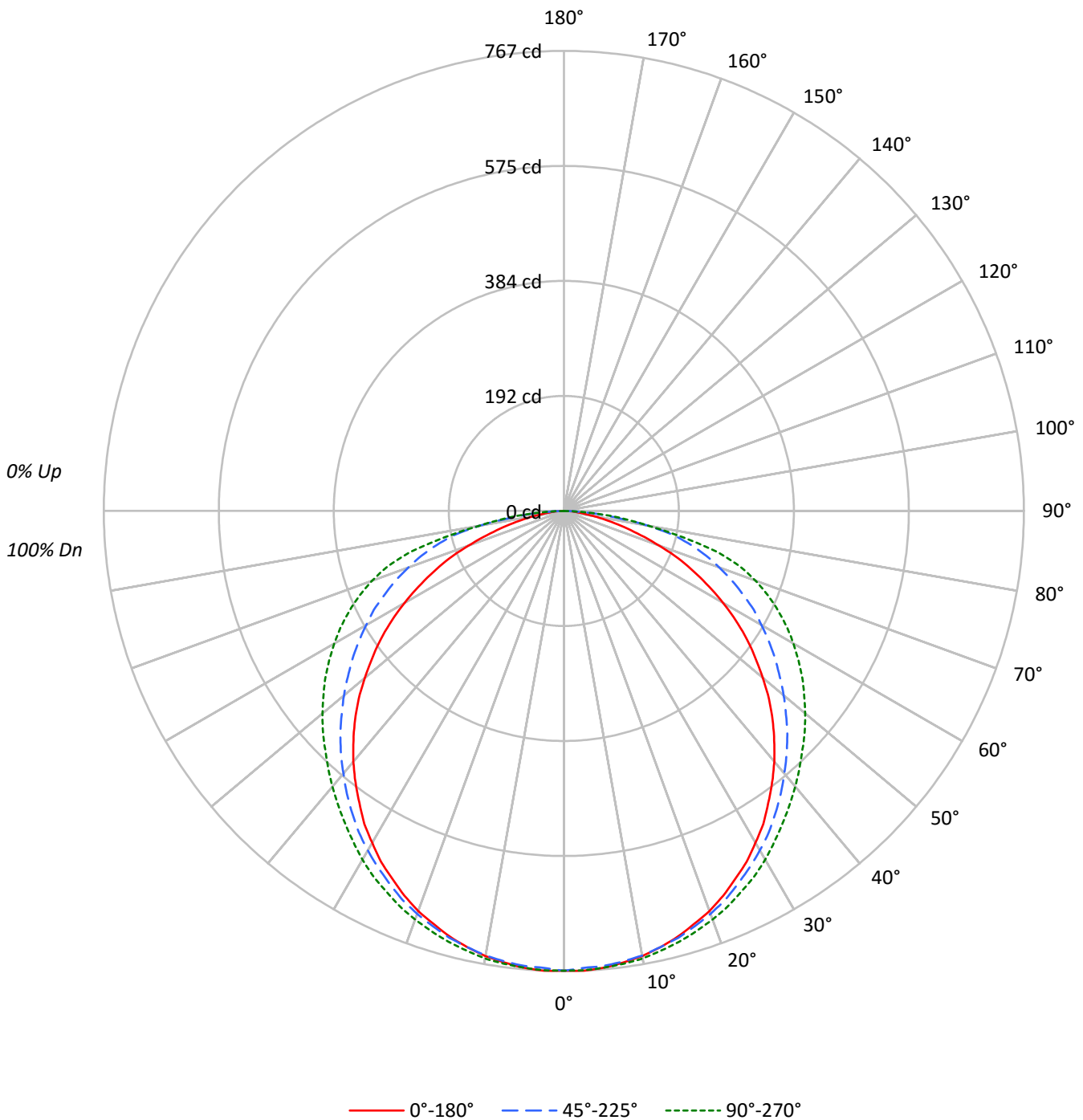
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1031	1031	1031
5°	1032	1028	1032
10°	1029	1028	1035
15°	1023	1026	1036
20°	1017	1024	1038
25°	1004	1019	1039
30°	992	1015	1043
35°	976	1010	1044
40°	959	1004	1054
45°	937	1003	1071
50°	907	1002	1099
55°	875	1009	1139
60°	825	1024	1189
65°	762	1048	1256
70°	665	1085	1338
75°	540	1141	1383
80°	398	1119	1119
85°	306	824	931



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.6	3.1
10°-20°	208.5	8.8
20°-30°	317.4	13.4
30°-40°	385.4	16.3
40°-50°	407.1	17.2
50°-60°	384.2	16.3
60°-70°	319.4	13.5
70°-80°	210.2	8.9
80°-90°	57.3	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°	598.4	25.3
0°-40°	983.8	41.7
0°-60°	1775.1	75.2
0°-90°	2362.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2362.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	766	766	766	766	766	
5°	764	764	761	764	764	73
15°	735	736	737	744	744	207
25°	676	680	686	698	700	312
35°	594	601	615	631	636	372
45°	492	502	527	553	563	379
55°	373	389	430	471	486	332
65°	239	267	329	378	394	237
75°	104	151	220	260	266	112
85°	20	44	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°	766.4	766.4	766.4	766.4	766.4
2.5°	767.3	766.4	762.4	766.4	766.4
5°	764.4	764.4	761.4	764.4	764.4
7.5°	759.4	759.4	757.5	761.4	761.4
10°	753.5	753.5	752.5	757.5	757.5
12.5°	744.6	745.6	744.6	750.5	750.5
15°	734.7	735.7	736.7	743.6	743.6
17.5°	721.9	723.8	725.8	733.7	734.7
20°	710.0	711.0	714.9	723.8	724.8
22.5°	694.2	697.1	702.1	711.0	713.9
25°	676.4	680.3	686.3	698.1	700.1
27.5°	659.6	662.5	670.4	683.3	687.2
30°	638.8	643.7	653.6	666.5	671.4
32.5°	619.0	624.0	635.8	649.7	653.6
35°	594.3	601.2	615.1	630.9	635.8
37.5°	570.6	577.5	594.3	612.1	618.0
40°	545.8	553.8	571.6	592.3	600.2
42.5°	519.1	530.0	549.8	572.5	581.4
45°	492.4	502.3	527.1	552.8	562.7
47.5°	463.8	475.6	502.3	533.0	544.9
50°	433.1	447.9	478.6	512.2	525.1
52.5°	402.5	419.3	453.9	491.5	505.3
55°	372.8	388.6	430.1	470.7	485.5
57.5°	340.2	359.9	405.4	448.9	463.8
60°	306.5	328.3	380.7	426.2	442.0
62.5°	272.9	297.6	357.0	402.5	419.3
65°	239.3	267.0	329.3	377.7	394.5
67.5°	206.7	237.3	303.6	352.0	368.8
70°	169.1	207.7	275.9	323.4	340.2
72.5°	134.5	179.0	249.2	293.7	308.5
75°	103.8	151.3	219.5	260.1	266.0
77.5°	76.1	123.6	188.9	202.7	203.7
80°	51.4	98.9	144.4	142.4	144.4
82.5°	33.6	74.2	91.0	101.9	102.8
85°	19.8	43.5	53.4	59.3	60.3
87.5°	9.9	14.8	18.8	19.8	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)