

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: P313102

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CP125-W2A-U-4000K**

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: P313102
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4000K 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: 2564.0 lumens
Efficiency: N/A
Efficacy: 96.4 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

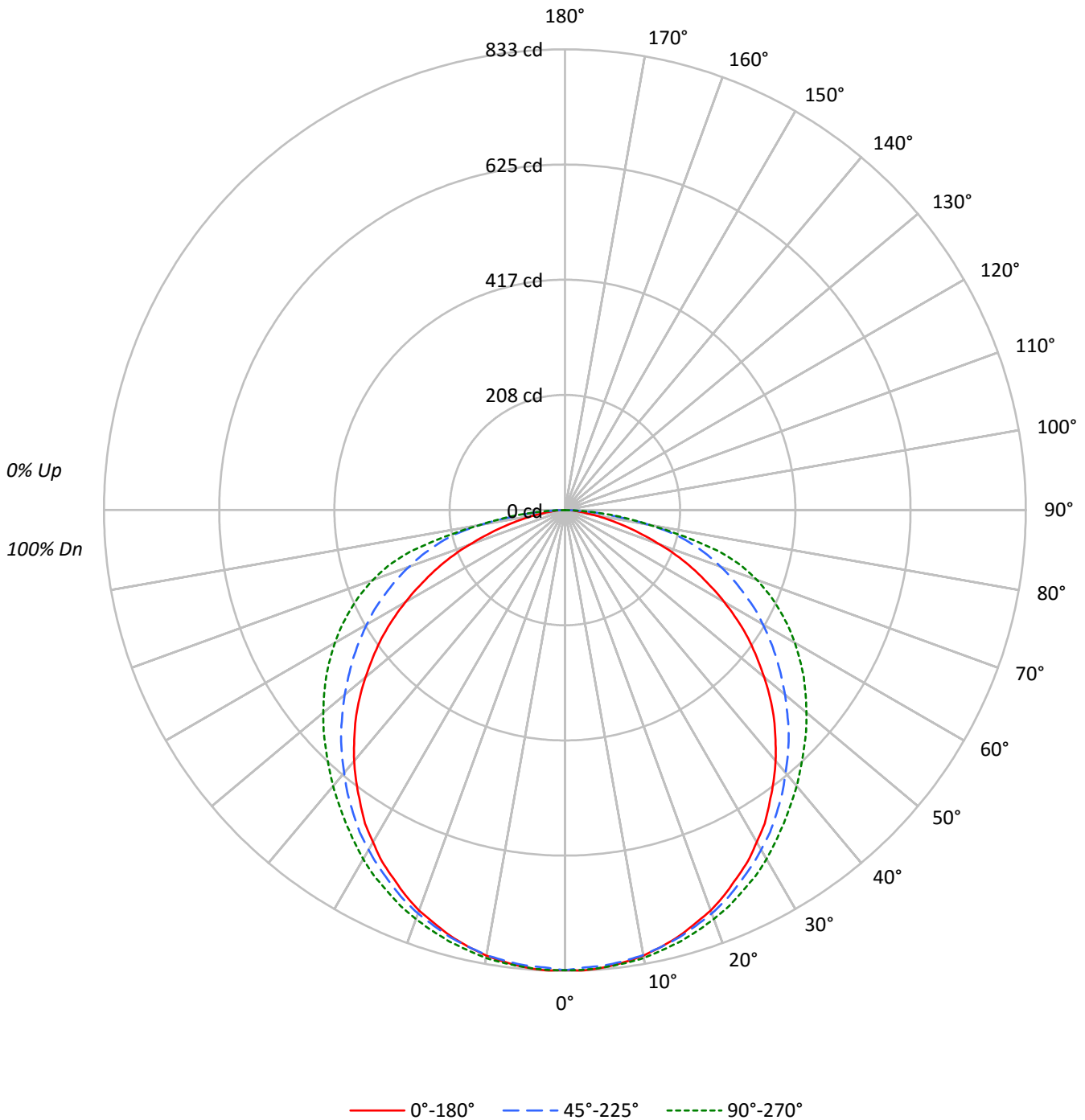
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1119	1119	1119
5°	1121	1116	1121
10°	1117	1116	1123
15°	1111	1114	1124
20°	1104	1111	1127
25°	1090	1106	1128
30°	1077	1102	1132
35°	1060	1097	1134
40°	1041	1090	1144
45°	1017	1089	1162
50°	984	1087	1193
55°	949	1095	1236
60°	896	1112	1291
65°	827	1138	1364
70°	722	1178	1453
75°	586	1239	1501
80°	432	1214	1214
85°	332	895	1011



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.8	3.1
10°-20°	226.3	8.8
20°-30°	344.5	13.4
30°-40°	418.3	16.3
40°-50°	442.0	17.2
50°-60°	417.0	16.3
60°-70°	346.7	13.5
70°-80°	228.1	8.9
80°-90°	62.2	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°	649.6	25.3
0°-40°	1067.9	41.7
0°-60°	1926.9	75.2
0°-90°	2564.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2564.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	832	832	832	832	832	
5°	830	830	826	830	830	79
15°	798	799	800	807	807	225
25°	734	738	745	758	760	339
35°	645	653	668	685	690	404
45°	535	545	572	600	611	412
55°	405	422	467	511	527	360
65°	260	290	357	410	428	257
75°	113	164	238	282	289	121
85°	22	47	58	64	66	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	831.9	831.9	831.9	831.9	831.9
2.5°	833.0	831.9	827.6	831.9	831.9
5°	829.7	829.7	826.5	829.7	829.7
7.5°	824.4	824.4	822.2	826.5	826.5
10°	817.9	817.9	816.9	822.2	822.2
12.5°	808.3	809.4	808.3	814.7	814.7
15°	797.5	798.6	799.7	807.2	807.2
17.5°	783.6	785.7	787.9	796.5	797.5
20°	770.7	771.8	776.1	785.7	786.8
22.5°	753.5	756.8	762.1	771.8	775.0
25°	734.2	738.5	744.9	757.8	760.0
27.5°	716.0	719.2	727.8	741.7	746.0
30°	693.4	698.8	709.5	723.5	728.8
32.5°	672.0	677.3	690.2	705.2	709.5
35°	645.1	652.6	667.7	684.8	690.2
37.5°	619.4	626.9	645.1	664.4	670.9
40°	592.5	601.1	620.4	643.0	651.6
42.5°	563.5	575.3	596.8	621.5	631.2
45°	534.6	545.3	572.1	600.0	610.8
47.5°	503.4	516.3	545.3	578.6	591.4
50°	470.2	486.3	519.5	556.0	570.0
52.5°	436.9	455.1	492.7	533.5	548.5
55°	404.7	421.8	466.9	510.9	527.0
57.5°	369.3	390.7	440.1	487.3	503.4
60°	332.8	356.4	413.3	462.6	479.8
62.5°	296.3	323.1	387.5	436.9	455.1
65°	259.8	289.8	357.4	410.0	428.3
67.5°	224.3	257.6	329.5	382.1	400.4
70°	183.6	225.4	299.5	351.0	369.3
72.5°	146.0	194.3	270.5	318.8	334.9
75°	112.7	164.2	238.3	282.3	288.7
77.5°	82.7	134.2	205.0	220.0	221.1
80°	55.8	107.3	156.7	154.6	156.7
82.5°	36.5	80.5	98.8	110.6	111.6
85°	21.5	47.2	58.0	64.4	65.5
87.5°	10.7	16.1	20.4	21.5	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)