

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: P313041

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-HRP-CA08-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: P313041
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: 24FCZ2-30HE-UNV-L83050-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 2180.0 lumens
Efficiency: N/A
Efficacy: 103.3 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

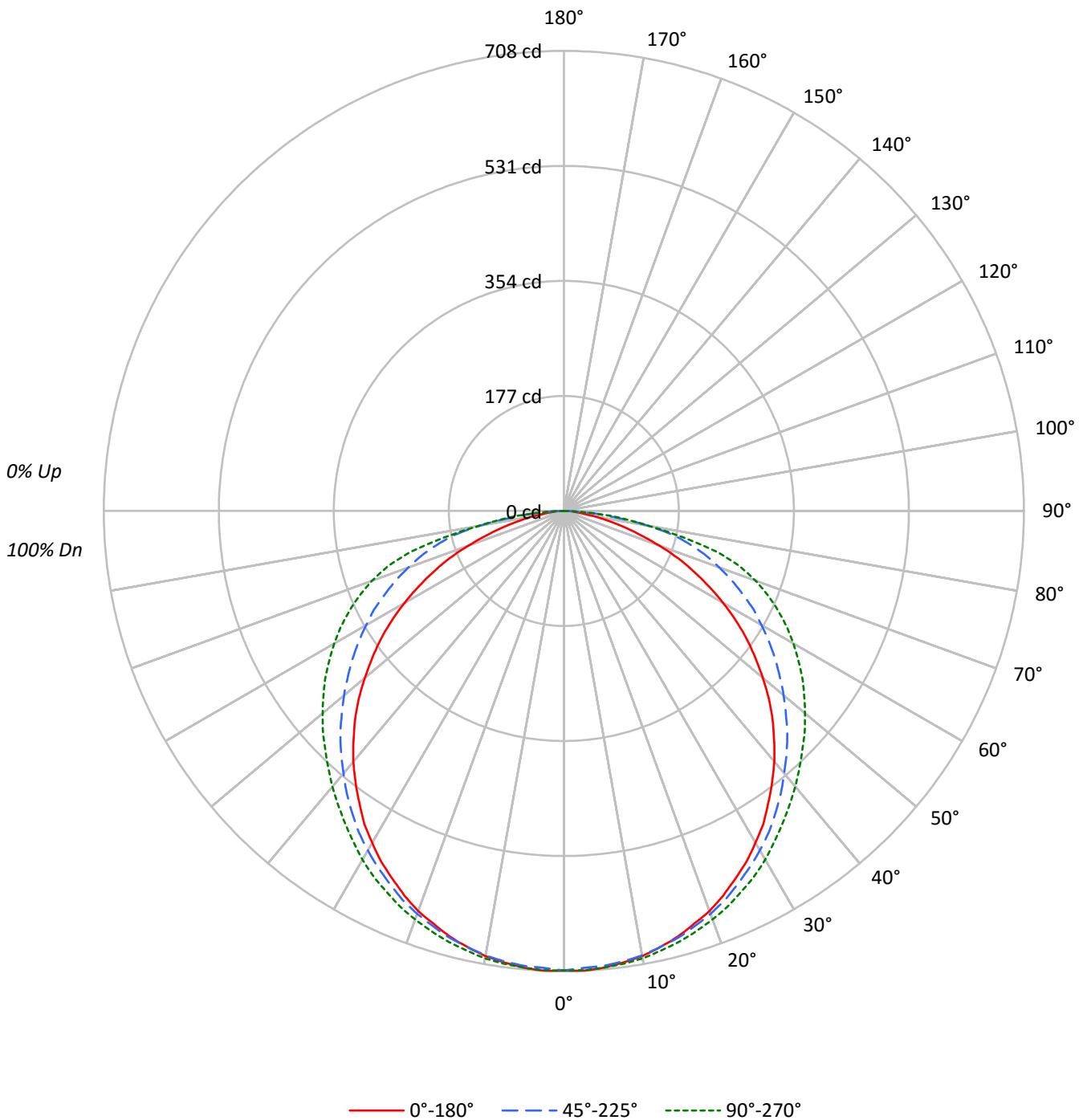
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	952	952	952
5°	953	949	953
10°	950	949	955
15°	945	947	956
20°	938	945	958
25°	927	940	959
30°	916	937	963
35°	901	932	964
40°	885	927	973
45°	865	926	988
50°	837	925	1014
55°	807	931	1051
60°	761	946	1098
65°	703	968	1159
70°	614	1002	1235
75°	498	1053	1276
80°	368	1032	1032
85°	283	761	860



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	3.1
10°-20°	192.4	8.8
20°-30°	292.9	13.4
30°-40°	355.7	16.3
40°-50°	375.8	17.2
50°-60°	354.6	16.3
60°-70°	294.8	13.5
70°-80°	194.0	8.9
80°-90°	52.9	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°	552.3	25.3
0°-40°	908.0	41.7
0°-60°	1638.4	75.2
0°-90°	2180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2180.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	707	707	707	707	707	
5°	706	706	703	706	706	67
15°	678	679	680	686	686	191
25°	624	628	633	644	646	288
35°	548	555	568	582	587	343
45°	454	464	486	510	519	350
55°	344	359	397	434	448	306
65°	221	246	304	349	364	218
75°	96	140	203	240	246	103
85°	18	40	49	55	56	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	707.3	707.3	707.3	707.3	707.3
2.5°	708.2	707.3	703.7	707.3	707.3
5°	705.5	705.5	702.7	705.5	705.5
7.5°	700.9	700.9	699.1	702.7	702.7
10°	695.4	695.4	694.5	699.1	699.1
12.5°	687.2	688.1	687.2	692.7	692.7
15°	678.1	679.0	679.9	686.3	686.3
17.5°	666.2	668.1	669.9	677.2	678.1
20°	655.3	656.2	659.8	668.1	669.0
22.5°	640.7	643.4	648.0	656.2	658.9
25°	624.3	627.9	633.4	644.3	646.2
27.5°	608.7	611.5	618.8	630.6	634.3
30°	589.6	594.1	603.3	615.1	619.7
32.5°	571.3	575.9	586.8	599.6	603.3
35°	548.5	554.9	567.7	582.3	586.8
37.5°	526.6	533.0	548.5	564.9	570.4
40°	503.8	511.1	527.5	546.7	554.0
42.5°	479.1	489.2	507.4	528.4	536.6
45°	454.5	463.6	486.4	510.2	519.3
47.5°	428.0	439.0	463.6	491.9	502.9
50°	399.7	413.4	441.7	472.8	484.6
52.5°	371.4	387.0	418.9	453.6	466.4
55°	344.1	358.7	397.0	434.4	448.1
57.5°	314.0	332.2	374.2	414.3	428.0
60°	282.9	303.0	351.4	393.4	408.0
62.5°	251.9	274.7	329.5	371.4	387.0
65°	220.9	246.4	303.9	348.6	364.1
67.5°	190.7	219.0	280.2	324.9	340.4
70°	156.1	191.7	254.6	298.4	314.0
72.5°	124.1	165.2	230.0	271.1	284.7
75°	95.8	139.6	202.6	240.0	245.5
77.5°	70.3	114.1	174.3	187.1	188.0
80°	47.5	91.3	133.2	131.4	133.2
82.5°	31.0	68.4	84.0	94.0	94.9
85°	18.3	40.2	49.3	54.8	55.7
87.5°	9.1	13.7	17.3	18.3	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)