

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: P309144

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-HRP-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: P309144
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-L82765-HRP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 2163.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

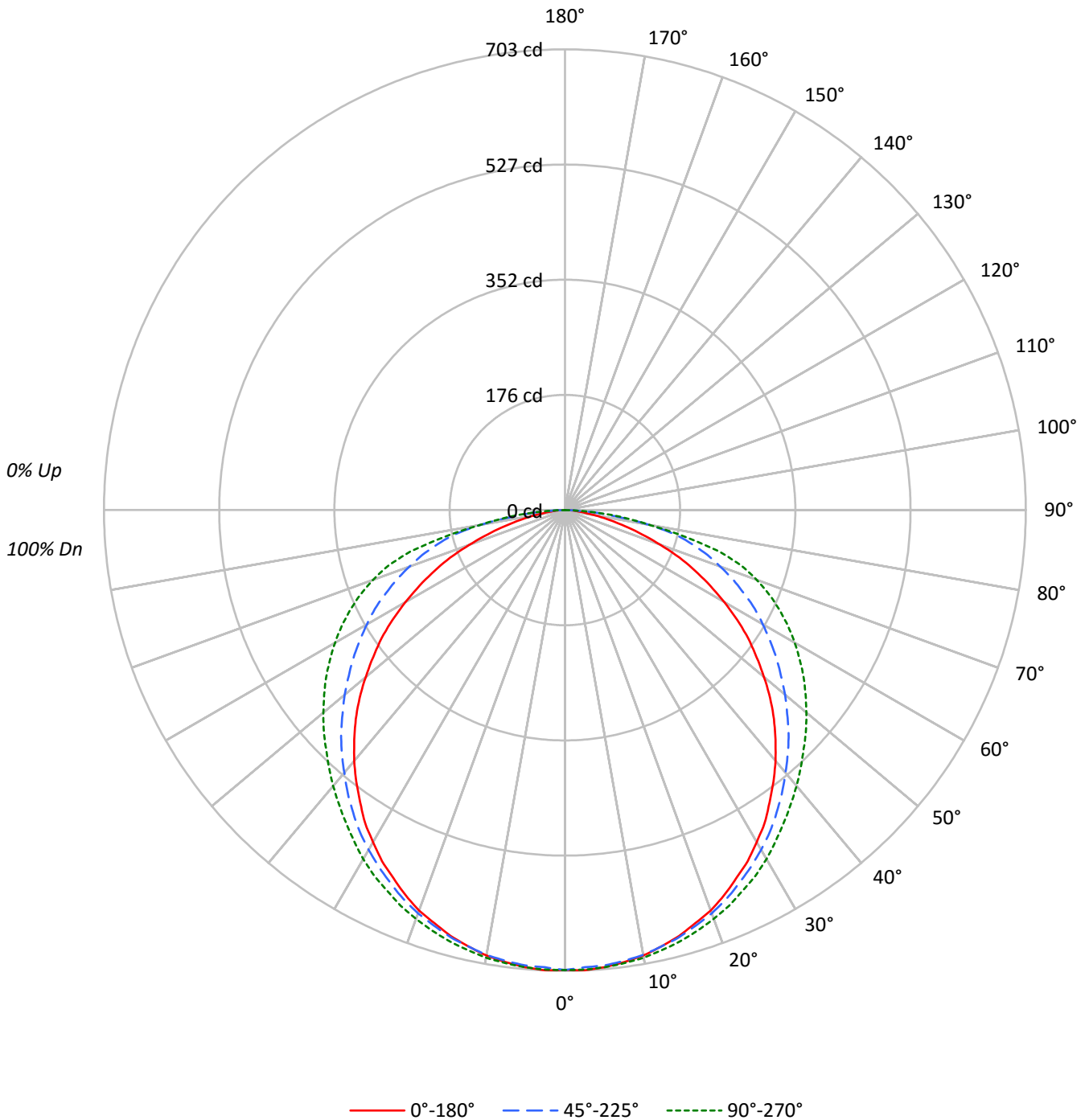
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	944	944	944
5°	945	942	945
10°	943	941	948
15°	937	940	949
20°	931	937	950
25°	920	933	952
30°	909	930	955
35°	894	925	956
40°	878	919	965
45°	858	918	980
50°	830	917	1006
55°	801	924	1043
60°	755	938	1089
65°	698	960	1150
70°	609	994	1225
75°	494	1045	1266
80°	365	1024	1024
85°	279	755	852



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	3.1
10°-20°	190.9	8.8
20°-30°	290.6	13.4
30°-40°	352.9	16.3
40°-50°	372.8	17.2
50°-60°	351.8	16.3
60°-70°	292.5	13.5
70°-80°	192.4	8.9
80°-90°	52.5	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°	548.0	25.3
0°-40°	900.9	41.7
0°-60°	1625.6	75.2
0°-90°	2163.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	700	700	697	700	700	66
15°	673	674	675	681	681	190
25°	619	623	628	639	641	286
35°	544	551	563	578	582	341
45°	451	460	483	506	515	347
55°	341	356	394	431	445	304
65°	219	244	302	346	361	217
75°	95	138	201	238	244	102
85°	18	40	49	54	55	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	701.8	701.8	701.8	701.8	701.8
2.5°	702.7	701.8	698.2	701.8	701.8
5°	700.0	700.0	697.3	700.0	700.0
7.5°	695.4	695.4	693.6	697.3	697.3
10°	690.0	690.0	689.1	693.6	693.6
12.5°	681.9	682.8	681.9	687.3	687.3
15°	672.8	673.7	674.6	681.0	681.0
17.5°	661.0	662.8	664.7	671.9	672.8
20°	650.2	651.1	654.7	662.8	663.8
22.5°	635.7	638.4	642.9	651.1	653.8
25°	619.4	623.0	628.4	639.3	641.1
27.5°	604.0	606.7	614.0	625.7	629.3
30°	585.0	589.5	598.6	610.3	614.9
32.5°	566.9	571.4	582.3	594.9	598.6
35°	544.2	550.6	563.2	577.7	582.3
37.5°	522.5	528.8	544.2	560.5	566.0
40°	499.9	507.1	523.4	542.4	549.7
42.5°	475.4	485.4	503.5	524.3	532.5
45°	451.0	460.0	482.6	506.2	515.2
47.5°	424.7	435.6	460.0	488.1	498.9
50°	396.6	410.2	438.3	469.1	480.8
52.5°	368.6	383.9	415.6	450.0	462.7
55°	341.4	355.9	393.9	431.0	444.6
57.5°	311.5	329.6	371.3	411.1	424.7
60°	280.7	300.6	348.6	390.3	404.8
62.5°	249.9	272.6	326.9	368.6	383.9
65°	219.1	244.5	301.5	345.9	361.3
67.5°	189.3	217.3	278.0	322.4	337.8
70°	154.8	190.2	252.6	296.1	311.5
72.5°	123.2	163.9	228.2	268.9	282.5
75°	95.1	138.5	201.0	238.2	243.6
77.5°	69.7	113.2	173.0	185.6	186.5
80°	47.1	90.6	132.2	130.4	132.2
82.5°	30.8	67.9	83.3	93.3	94.2
85°	18.1	39.8	48.9	54.3	55.2
87.5°	9.1	13.6	17.2	18.1	19.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)