

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: P309819

Luminaire Tested: **24FCZ2-30HE-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: P309819
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: 24FCZ2-30HE-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: 1918.0 lumens
Efficiency: N/A
Efficacy: 89.2 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

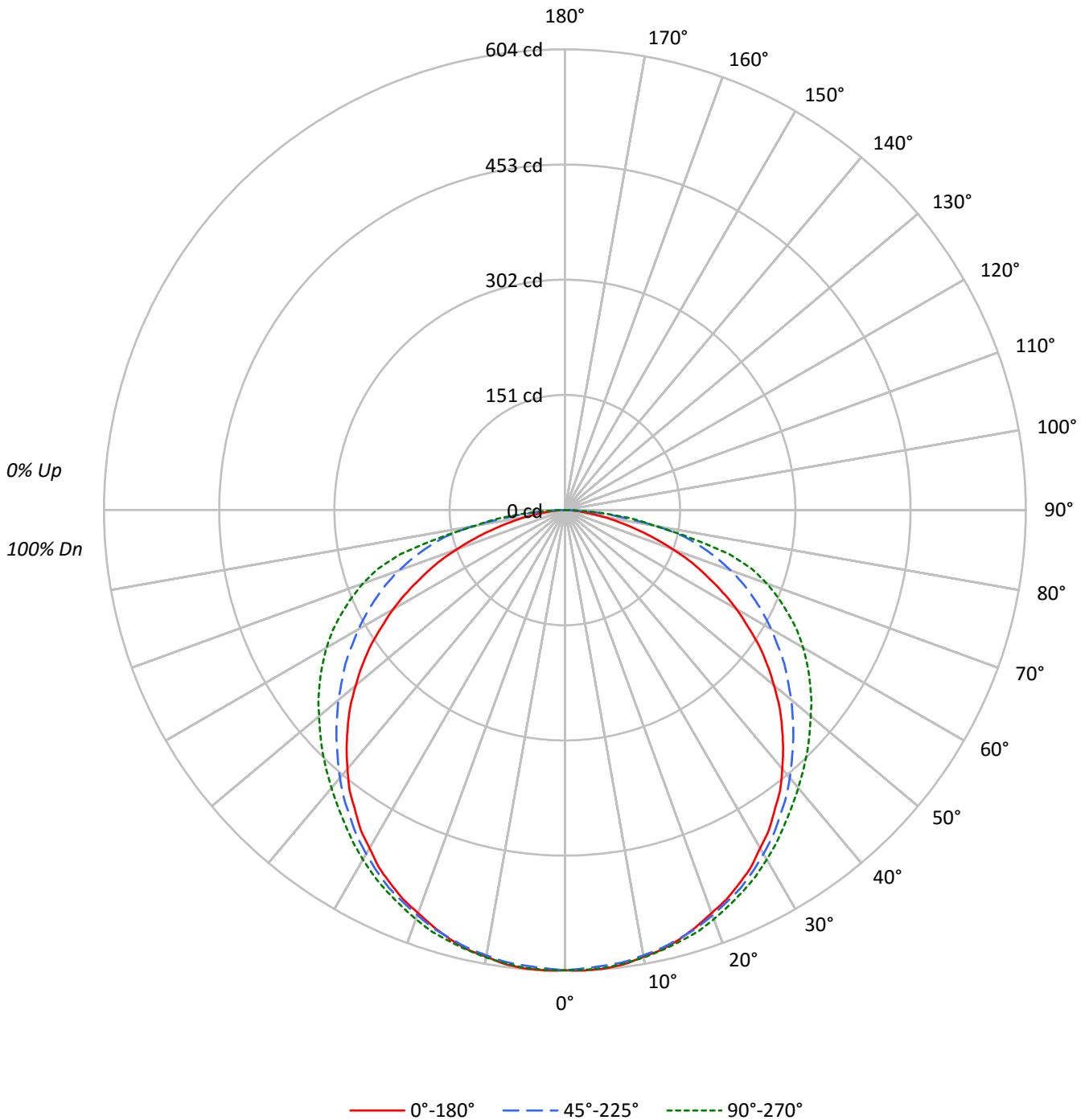
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	812	812	812
5°	815	810	813
10°	812	810	814
15°	811	810	815
20°	805	809	817
25°	802	811	819
30°	795	809	822
35°	788	806	825
40°	779	805	836
45°	766	806	854
50°	749	810	880
55°	730	823	920
60°	699	840	970
65°	654	869	1030
70°	595	910	1108
75°	504	960	1157
80°	398	965	936
85°	293	735	823



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.2	3.0
10°-20°	164.7	8.6
20°-30°	251.8	13.1
30°-40°	307.8	16.0
40°-50°	328.1	17.1
50°-60°	313.7	16.4
60°-70°	265.7	13.9
70°-80°	178.6	9.3
80°-90°	50.4	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°	473.7	24.7
0°-40°	781.5	40.7
0°-60°	1423.3	74.2
0°-90°	1918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	603	603	603	603	603	
5°	603	602	599	602	602	57
15°	582	582	581	586	585	164
25°	540	542	546	551	552	249
35°	480	483	491	500	502	300
45°	402	409	423	441	449	310
55°	311	322	351	379	392	277
65°	206	226	273	309	324	204
75°	97	132	185	216	223	104
85°	19	39	48	51	53	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	603.2	603.2	603.2	603.2	603.2
2.5°	604.1	604.1	601.3	603.2	603.2
5°	603.2	602.2	599.4	602.2	602.2
7.5°	600.3	599.4	597.4	600.3	599.4
10°	594.6	594.6	592.7	595.5	595.5
12.5°	589.8	588.9	587.9	591.7	590.8
15°	582.2	582.2	581.3	586.0	585.1
17.5°	572.7	573.7	574.6	578.4	579.4
20°	562.2	564.2	565.1	570.8	570.8
22.5°	552.7	553.7	555.6	561.3	561.3
25°	540.4	542.3	546.1	550.8	551.8
27.5°	528.0	529.0	533.7	540.4	541.3
30°	511.8	514.7	520.4	528.0	529.0
32.5°	497.6	500.4	507.1	514.7	516.6
35°	479.5	483.3	490.9	500.4	502.3
37.5°	463.3	466.2	475.7	486.1	489.0
40°	443.3	449.0	458.6	470.9	475.7
42.5°	423.4	429.1	440.5	456.6	462.4
45°	402.4	409.1	423.4	441.4	449.0
47.5°	381.5	389.1	405.3	426.2	434.8
50°	357.7	367.2	387.2	411.0	420.5
52.5°	334.9	346.3	368.2	394.8	407.2
55°	311.1	322.5	351.0	378.6	392.0
57.5°	284.5	299.7	331.1	362.5	376.7
60°	259.7	274.0	312.0	346.3	360.6
62.5°	233.1	252.1	293.0	329.2	343.4
65°	205.5	226.4	273.0	309.2	323.5
67.5°	180.8	203.6	253.1	289.2	303.5
70°	151.3	179.8	231.2	267.3	281.6
72.5°	123.7	155.1	208.3	243.5	256.9
75°	97.0	132.2	184.6	216.0	222.6
77.5°	72.3	109.4	159.8	173.1	168.4
80°	51.4	87.5	124.6	118.0	120.8
82.5°	33.3	66.6	77.1	87.5	90.4
85°	19.0	39.0	47.6	51.4	53.3
87.5°	8.6	14.3	19.0	19.0	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)