

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: P309169

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-HRP-CP187-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: P309169
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-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB 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: 1946.0 lumens
Efficiency: N/A
Efficacy: 91.8 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

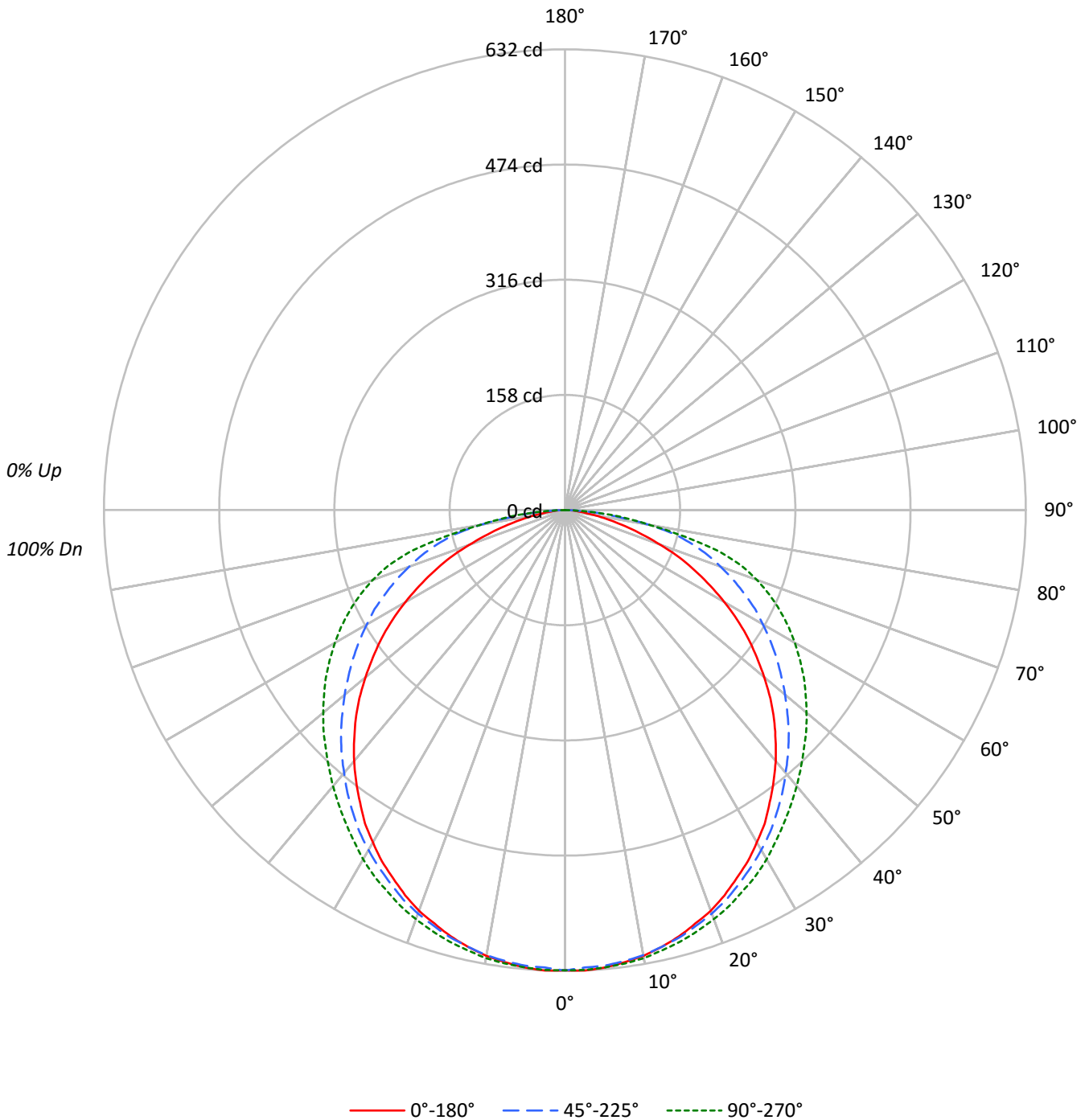
Input Watts (W): 21.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	850	850	850
5°	851	847	851
10°	848	847	853
15°	843	845	853
20°	837	843	855
25°	827	839	856
30°	818	837	859
35°	804	832	860
40°	790	827	869
45°	772	826	882
50°	747	825	906
55°	720	831	938
60°	680	844	980
65°	628	864	1035
70°	548	894	1103
75°	444	940	1140
80°	329	921	921
85°	252	679	767



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.8	3.1
10°-20°	171.8	8.8
20°-30°	261.5	13.4
30°-40°	317.5	16.3
40°-50°	335.4	17.2
50°-60°	316.5	16.3
60°-70°	263.2	13.5
70°-80°	173.1	8.9
80°-90°	47.2	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°	493.0	25.3
0°-40°	810.5	41.7
0°-60°	1462.5	75.2
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	630	630	627	630	630	60
15°	605	606	607	613	613	171
25°	557	560	565	575	577	257
35°	490	495	507	520	524	307
45°	406	414	434	455	464	312
55°	307	320	354	388	400	274
65°	197	220	271	311	325	195
75°	86	125	181	214	219	92
85°	16	36	44	49	50	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	631.4	631.4	631.4	631.4	631.4
2.5°	632.2	631.4	628.1	631.4	631.4
5°	629.8	629.8	627.3	629.8	629.8
7.5°	625.7	625.7	624.0	627.3	627.3
10°	620.8	620.8	620.0	624.0	624.0
12.5°	613.5	614.3	613.5	618.3	618.3
15°	605.3	606.1	606.9	612.6	612.6
17.5°	594.7	596.3	598.0	604.5	605.3
20°	584.9	585.8	589.0	596.3	597.2
22.5°	571.9	574.4	578.4	585.8	588.2
25°	557.2	560.5	565.4	575.2	576.8
27.5°	543.4	545.8	552.4	562.9	566.2
30°	526.3	530.4	538.5	549.1	553.2
32.5°	510.0	514.1	523.8	535.2	538.5
35°	489.6	495.3	506.7	519.8	523.8
37.5°	470.1	475.8	489.6	504.3	509.2
40°	449.7	456.2	470.9	488.0	494.5
42.5°	427.7	436.7	453.0	471.7	479.0
45°	405.7	413.9	434.2	455.4	463.6
47.5°	382.1	391.9	413.9	439.1	448.9
50°	356.8	369.1	394.3	422.0	432.6
52.5°	331.6	345.4	373.9	404.9	416.3
55°	307.1	320.2	354.4	387.8	400.0
57.5°	280.3	296.5	334.0	369.9	382.1
60°	252.6	270.5	313.7	351.1	364.2
62.5°	224.9	245.2	294.1	331.6	345.4
65°	197.2	220.0	271.3	311.2	325.1
67.5°	170.3	195.5	250.1	290.0	303.9
70°	139.3	171.1	227.3	266.4	280.3
72.5°	110.8	147.5	205.3	242.0	254.2
75°	85.5	124.6	180.9	214.3	219.2
77.5°	62.7	101.8	155.6	167.0	167.8
80°	42.4	81.5	118.9	117.3	118.9
82.5°	27.7	61.1	75.0	83.9	84.7
85°	16.3	35.8	44.0	48.9	49.7
87.5°	8.1	12.2	15.5	16.3	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)