

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: P313056

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-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: P313056
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-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: 2040.0 lumens
Efficiency: N/A
Efficacy: 96.7 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

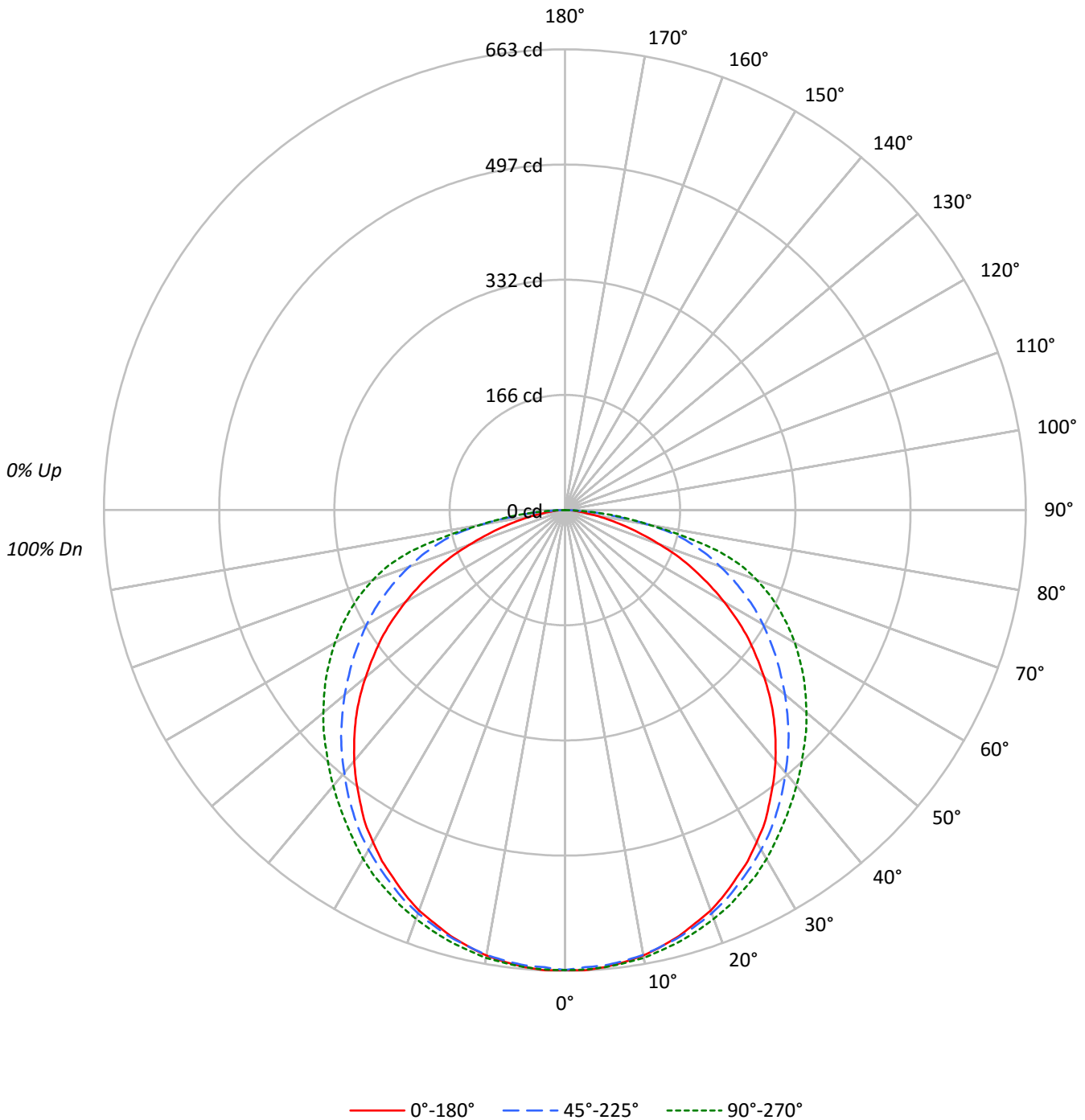
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	891	891	891
5°	892	888	892
10°	889	888	894
15°	884	886	895
20°	878	884	896
25°	867	880	898
30°	857	877	901
35°	843	873	902
40°	828	867	911
45°	809	866	925
50°	783	865	949
55°	755	871	984
60°	713	885	1027
65°	658	905	1085
70°	574	937	1156
75°	466	986	1194
80°	344	966	966
85°	264	712	804



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	3.1
10°-20°	180.1	8.8
20°-30°	274.1	13.4
30°-40°	332.8	16.3
40°-50°	351.6	17.2
50°-60°	331.8	16.3
60°-70°	275.9	13.5
70°-80°	181.5	8.9
80°-90°	49.5	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°	516.9	25.3
0°-40°	849.7	41.7
0°-60°	1533.2	75.2
0°-90°	2040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	662	662	662	662	662	
5°	660	660	658	660	660	63
15°	635	635	636	642	642	179
25°	584	588	593	603	605	269
35°	513	519	531	545	549	321
45°	425	434	455	477	486	328
55°	322	336	372	406	419	287
65°	207	231	284	326	341	204
75°	90	131	190	225	230	97
85°	17	38	46	51	52	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	661.9	661.9	661.9	661.9	661.9
2.5°	662.7	661.9	658.5	661.9	661.9
5°	660.2	660.2	657.6	660.2	660.2
7.5°	655.9	655.9	654.2	657.6	657.6
10°	650.8	650.8	649.9	654.2	654.2
12.5°	643.1	643.9	643.1	648.2	648.2
15°	634.6	635.4	636.3	642.2	642.2
17.5°	623.4	625.2	626.9	633.7	634.6
20°	613.2	614.1	617.5	625.2	626.0
22.5°	599.5	602.1	606.4	614.1	616.6
25°	584.2	587.6	592.7	603.0	604.7
27.5°	569.6	572.2	579.0	590.1	593.6
30°	551.7	556.0	564.5	575.6	579.9
32.5°	534.6	538.9	549.1	561.1	564.5
35°	513.3	519.3	531.2	544.9	549.1
37.5°	492.8	498.8	513.3	528.6	533.8
40°	471.4	478.3	493.6	511.6	518.4
42.5°	448.4	457.8	474.8	494.5	502.2
45°	425.3	433.9	455.2	477.4	485.9
47.5°	400.5	410.8	433.9	460.3	470.6
50°	374.1	386.9	413.4	442.4	453.5
52.5°	347.6	362.1	392.0	424.5	436.4
55°	322.0	335.6	371.5	406.5	419.3
57.5°	293.8	310.9	350.2	387.7	400.5
60°	264.8	283.5	328.8	368.1	381.8
62.5°	235.7	257.1	308.3	347.6	362.1
65°	206.7	230.6	284.4	326.2	340.8
67.5°	178.5	205.0	262.2	304.0	318.6
70°	146.0	179.3	238.3	279.3	293.8
72.5°	116.1	154.6	215.2	253.6	266.5
75°	89.7	130.7	189.6	224.6	229.7
77.5°	65.8	106.8	163.1	175.1	175.9
80°	44.4	85.4	124.7	123.0	124.7
82.5°	29.0	64.1	78.6	88.0	88.8
85°	17.1	37.6	46.1	51.2	52.1
87.5°	8.5	12.8	16.2	17.1	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)