

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: P313080

Luminaire Tested: **24FCZ2-30-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313080
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: 24FCZ2-30-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3000K 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: 1905.0 lumens
Efficiency: N/A
Efficacy: 81.4 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

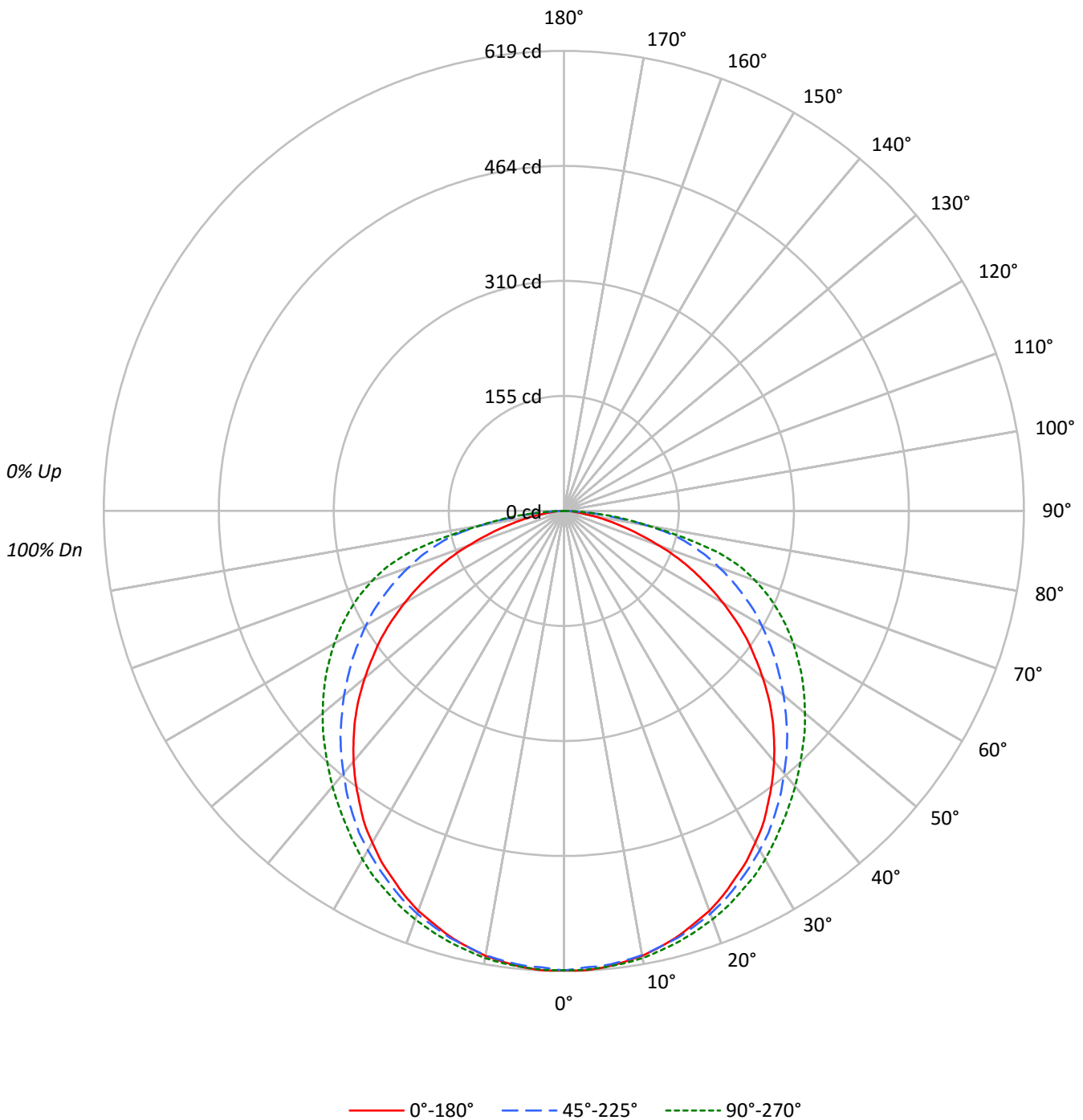
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	832	832	832
5°	833	829	833
10°	830	829	835
15°	825	828	835
20°	820	826	837
25°	810	822	838
30°	800	819	841
35°	787	815	842
40°	773	810	850
45°	756	809	863
50°	731	808	886
55°	705	814	919
60°	665	826	959
65°	614	846	1013
70°	537	875	1079
75°	435	920	1115
80°	322	902	902
85°	247	665	750



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.6	3.1
10°-20°	168.1	8.8
20°-30°	256.0	13.4
30°-40°	310.8	16.3
40°-50°	328.4	17.2
50°-60°	309.8	16.3
60°-70°	257.6	13.5
70°-80°	169.5	8.9
80°-90°	46.2	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°	482.7	25.3
0°-40°	793.5	41.7
0°-60°	1431.7	75.2
0°-90°	1905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	616	616	614	616	616	59
15°	593	593	594	600	600	167
25°	546	549	554	563	565	252
35°	479	485	496	509	513	300
45°	397	405	425	446	454	306
55°	301	313	347	380	392	268
65°	193	215	266	305	318	191
75°	84	122	177	210	214	90
85°	16	35	43	48	49	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	618.1	618.1	618.1	618.1	618.1
2.5°	618.9	618.1	614.9	618.1	618.1
5°	616.5	616.5	614.1	616.5	616.5
7.5°	612.5	612.5	610.9	614.1	614.1
10°	607.7	607.7	606.9	610.9	610.9
12.5°	600.5	601.3	600.5	605.3	605.3
15°	592.6	593.4	594.2	599.7	599.7
17.5°	582.2	583.8	585.4	591.8	592.6
20°	572.6	573.4	576.6	583.8	584.6
22.5°	559.9	562.3	566.2	573.4	575.8
25°	545.5	548.7	553.5	563.0	564.6
27.5°	531.9	534.3	540.7	551.1	554.3
30°	515.2	519.2	527.2	537.5	541.5
32.5°	499.2	503.2	512.8	524.0	527.2
35°	479.3	484.9	496.1	508.8	512.8
37.5°	460.2	465.8	479.3	493.7	498.5
40°	440.2	446.6	461.0	477.7	484.1
42.5°	418.7	427.5	443.4	461.8	468.9
45°	397.2	405.1	425.1	445.8	453.8
47.5°	374.0	383.6	405.1	429.9	439.4
50°	349.3	361.3	386.0	413.1	423.5
52.5°	324.6	338.1	366.1	396.4	407.5
55°	300.7	313.4	346.9	379.6	391.6
57.5°	274.3	290.3	327.0	362.1	374.0
60°	247.2	264.8	307.0	343.7	356.5
62.5°	220.1	240.1	287.9	324.6	338.1
65°	193.0	215.3	265.6	304.7	318.2
67.5°	166.7	191.4	244.8	283.9	297.5
70°	136.4	167.5	222.5	260.8	274.3
72.5°	108.5	144.4	201.0	236.9	248.8
75°	83.7	122.0	177.0	209.7	214.5
77.5°	61.4	99.7	152.3	163.5	164.3
80°	41.5	79.8	116.4	114.8	116.4
82.5°	27.1	59.8	73.4	82.1	82.9
85°	16.0	35.1	43.1	47.9	48.6
87.5°	8.0	12.0	15.2	16.0	17.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)