

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: P313057

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-HRP-CP187-W2A-U-4000K**

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: P313057
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 2142.0 lumens
Efficiency: N/A
Efficacy: 99.2 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

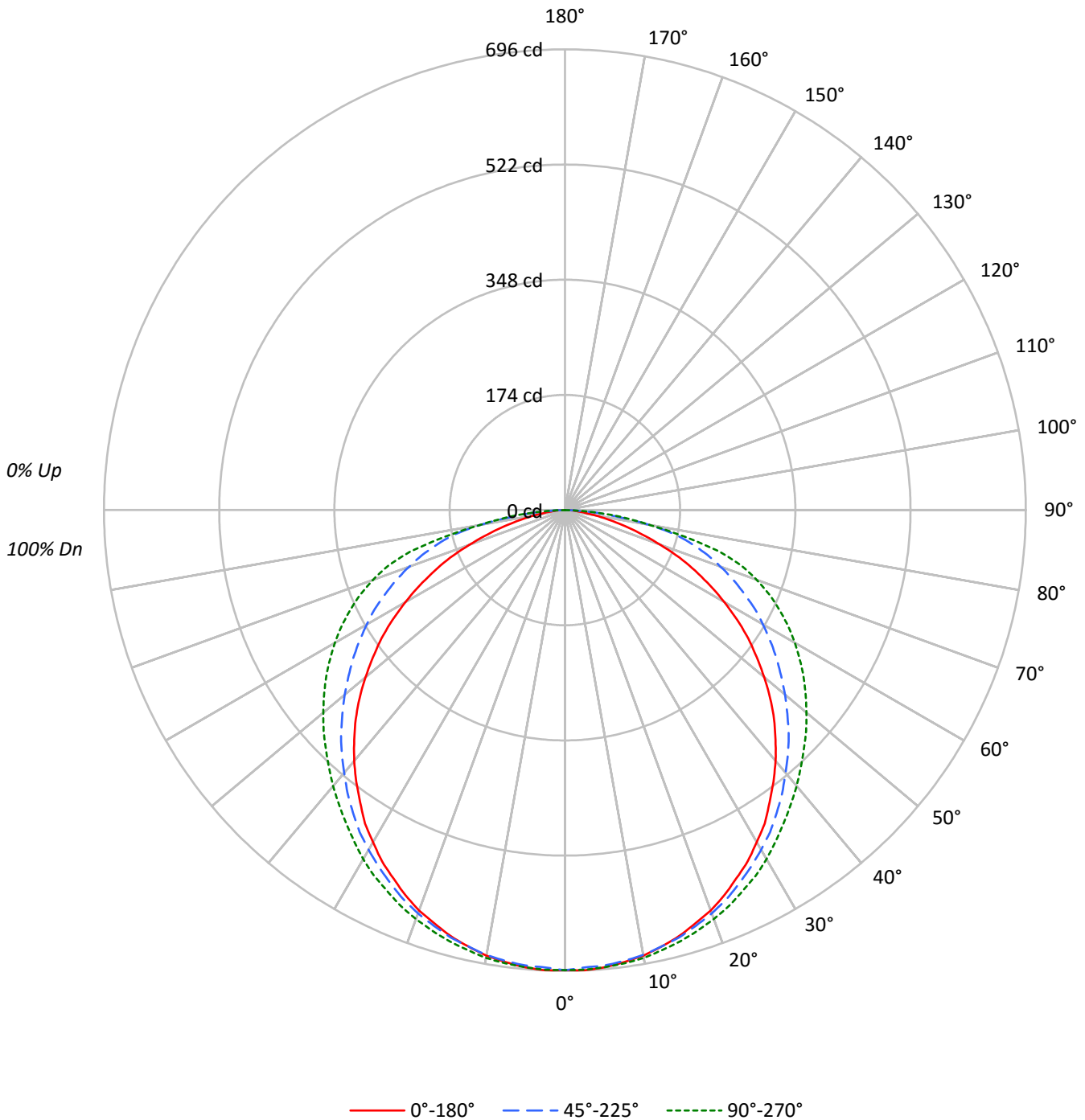
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	935	935	935
5°	936	933	936
10°	934	932	938
15°	928	931	939
20°	922	928	941
25°	911	924	943
30°	900	921	946
35°	885	916	947
40°	869	910	956
45°	850	910	971
50°	822	908	997
55°	793	915	1033
60°	748	929	1079
65°	691	951	1139
70°	603	984	1214
75°	490	1035	1254
80°	361	1014	1014
85°	276	747	844



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.8	3.1
10°-20°	189.1	8.8
20°-30°	287.8	13.4
30°-40°	349.5	16.3
40°-50°	369.2	17.2
50°-60°	348.4	16.3
60°-70°	289.7	13.5
70°-80°	190.6	8.9
80°-90°	52.0	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°	542.7	25.3
0°-40°	892.2	41.7
0°-60°	1609.8	75.2
0°-90°	2142.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2142.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	695	695	695	695	695	
5°	693	693	690	693	693	66
15°	666	667	668	674	674	188
25°	613	617	622	633	635	283
35°	539	545	558	572	577	337
45°	447	456	478	501	510	344
55°	338	352	390	427	440	301
65°	217	242	299	343	358	215
75°	94	137	199	236	241	101
85°	18	40	48	54	55	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	695.0	695.0	695.0	695.0	695.0
2.5°	695.9	695.0	691.4	695.0	695.0
5°	693.2	693.2	690.5	693.2	693.2
7.5°	688.7	688.7	686.9	690.5	690.5
10°	683.3	683.3	682.4	686.9	686.9
12.5°	675.2	676.1	675.2	680.6	680.6
15°	666.3	667.2	668.1	674.3	674.3
17.5°	654.6	656.4	658.2	665.4	666.3
20°	643.9	644.8	648.3	656.4	657.3
22.5°	629.5	632.2	636.7	644.8	647.4
25°	613.4	617.0	622.3	633.1	634.9
27.5°	598.1	600.8	608.0	619.6	623.2
30°	579.3	583.8	592.7	604.4	608.9
32.5°	561.4	565.8	576.6	589.2	592.7
35°	538.9	545.2	557.8	572.1	576.6
37.5°	517.4	523.7	538.9	555.1	560.5
40°	495.0	502.2	518.3	537.1	544.3
42.5°	470.8	480.7	498.6	519.2	527.3
45°	446.6	455.5	478.0	501.3	510.2
47.5°	420.6	431.3	455.5	483.3	494.1
50°	392.8	406.2	434.0	464.5	476.2
52.5°	365.0	380.2	411.6	445.7	458.2
55°	338.1	352.4	390.1	426.8	440.3
57.5°	308.5	326.4	367.7	407.1	420.6
60°	278.0	297.7	345.2	386.5	400.8
62.5°	247.5	269.9	323.7	365.0	380.2
65°	217.0	242.1	298.6	342.6	357.8
67.5°	187.4	215.2	275.3	319.2	334.5
70°	153.3	188.3	250.2	293.2	308.5
72.5°	122.0	162.3	226.0	266.3	279.8
75°	94.2	137.2	199.1	235.8	241.2
77.5°	69.0	112.1	171.3	183.8	184.7
80°	46.6	89.7	130.9	129.1	130.9
82.5°	30.5	67.3	82.5	92.4	93.3
85°	17.9	39.5	48.4	53.8	54.7
87.5°	9.0	13.5	17.0	17.9	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)