

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: P312509

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CP187-W2A-U-5000K**

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: P312509
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-29HE-UNV-L83050-HRP-CP187-W2A-U-5000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2050.0 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

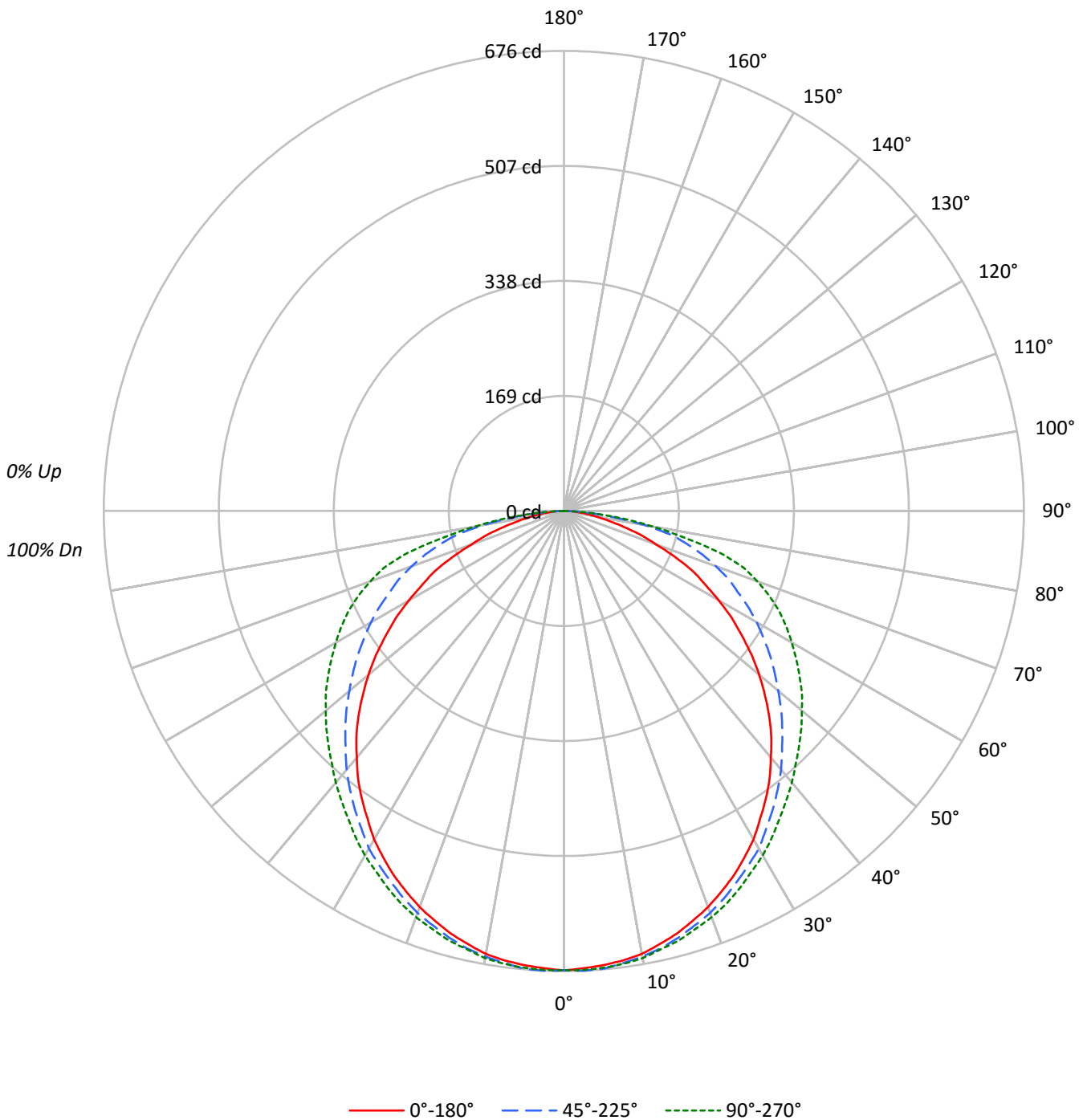
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1816	1816	1816
5°	1810	1823	1820
10°	1806	1816	1823
15°	1791	1809	1819
20°	1774	1800	1818
25°	1755	1785	1816
30°	1732	1780	1816
35°	1699	1759	1814
40°	1663	1744	1831
45°	1624	1727	1860
50°	1570	1721	1911
55°	1498	1735	1984
60°	1413	1761	2081
65°	1334	1795	2223
70°	1139	1872	2381
75°	954	1949	2473
80°	781	1884	2064
85°	679	1399	1516



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.0	3.1
10°-20°	183.0	8.9
20°-30°	277.4	13.5
30°-40°	334.9	16.3
40°-50°	351.9	17.2
50°-60°	331.1	16.2
60°-70°	276.1	13.5
70°-80°	182.9	8.9
80°-90°	48.7	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°	524.3	25.6
0°-40°	859.2	41.9
0°-60°	1542.3	75.2
0°-90°	2050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2050.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	675	675	675	675	675	
5°	670	671	675	675	674	64
15°	643	645	649	652	653	181
25°	591	595	601	609	612	272
35°	517	522	535	547	552	323
45°	427	433	454	477	489	329
55°	319	334	370	407	423	286
65°	210	228	282	328	349	204
75°	92	128	188	226	238	100
85°	22	34	45	49	49	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	675.0	675.0	675.0	675.0	675.0
2.5°	672.5	673.7	676.3	676.3	675.0
5°	669.9	671.2	675.0	675.0	673.7
7.5°	666.0	667.3	669.9	672.5	671.2
10°	660.8	662.1	664.7	667.3	667.3
12.5°	651.8	653.1	658.2	659.5	659.5
15°	642.7	645.3	649.2	651.8	653.1
17.5°	631.1	633.7	638.8	644.0	644.0
20°	619.4	622.0	628.5	633.7	635.0
22.5°	605.2	609.1	615.6	622.0	624.6
25°	591.0	594.9	601.3	609.1	611.7
27.5°	574.2	578.1	587.1	596.2	597.5
30°	557.4	561.2	572.9	580.6	584.5
32.5°	536.7	541.8	553.5	565.1	569.0
35°	517.3	522.4	535.4	547.0	552.2
37.5°	496.6	501.8	516.0	530.2	536.7
40°	473.3	479.8	496.6	512.1	521.2
42.5°	451.3	457.8	474.6	495.3	504.3
45°	426.8	433.2	453.9	477.2	488.8
47.5°	400.9	408.6	433.2	461.7	473.3
50°	375.0	384.1	411.2	443.6	456.5
52.5°	347.9	359.5	390.5	425.5	441.0
55°	319.4	333.6	369.9	407.4	422.9
57.5°	292.3	305.2	347.9	388.0	404.8
60°	262.5	279.3	327.2	368.6	386.7
62.5°	234.1	252.2	305.2	349.2	368.6
65°	209.5	227.6	281.9	328.5	349.2
67.5°	177.2	201.7	262.5	306.5	327.2
70°	144.8	178.5	237.9	283.2	302.6
72.5°	120.3	152.6	213.4	258.6	276.7
75°	91.8	128.0	187.5	226.3	237.9
77.5°	68.5	106.0	160.4	179.8	181.0
80°	50.4	81.5	121.6	128.0	133.2
82.5°	34.9	56.9	78.9	86.6	89.2
85°	22.0	33.6	45.3	49.1	49.1
87.5°	11.6	12.9	15.5	15.5	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)