

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: P312757

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-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: P312757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L83050-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 1912.0 lumens
Efficiency: N/A
Efficacy: 111.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

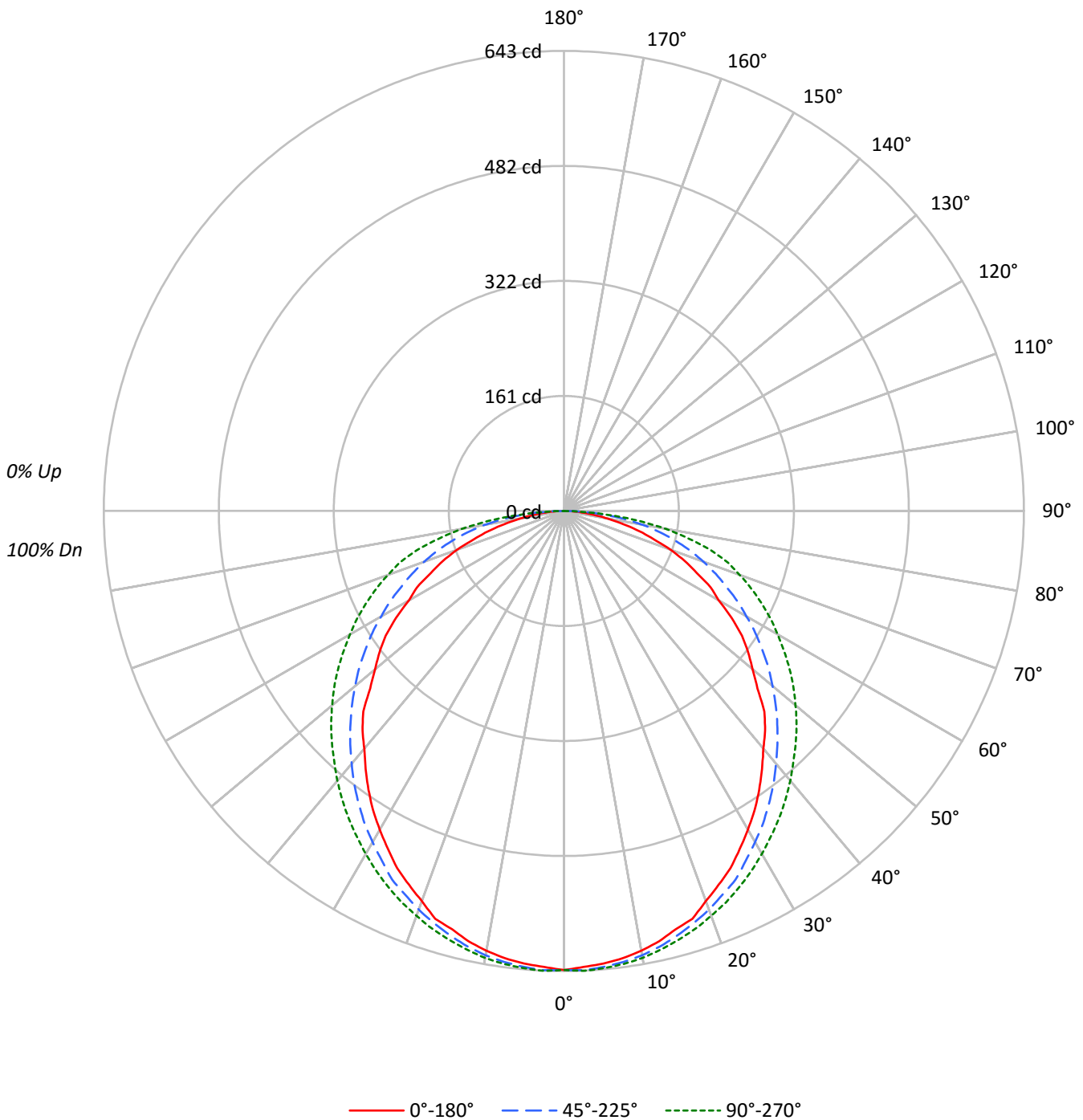
Input Watts (W): 17.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	90	92	89	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	60	68	63	59	56
4	81	69	60	53	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	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
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	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1726	1726	1726
5°	1716	1728	1733
10°	1705	1723	1733
15°	1685	1711	1728
20°	1662	1698	1724
25°	1636	1687	1723
30°	1598	1661	1720
35°	1563	1642	1723
40°	1524	1620	1729
45°	1508	1606	1745
50°	1441	1594	1770
55°	1425	1589	1808
60°	1344	1586	1857
65°	1305	1596	1940
70°	1253	1634	2059
75°	1142	1684	2217
80°	978	1745	2241
85°	790	1667	1920



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.7	3.2
10°-20°	173.2	9.1
20°-30°	260.6	13.6
30°-40°	312.8	16.4
40°-50°	326.9	17.1
50°-60°	304.7	15.9
60°-70°	249.9	13.1
70°-80°	168.4	8.8
80°-90°	54.9	2.9
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°	494.5	25.9
0°-40°	807.3	42.2
0°-60°	1438.9	75.3
0°-90°	1912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1912.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	642	642	642	642	642	
5°	635	637	640	641	642	60
15°	605	608	614	620	620	171
25°	551	555	568	576	580	253
35°	476	482	500	517	524	298
45°	396	399	422	448	458	303
55°	304	309	339	371	385	269
65°	205	214	251	287	305	204
75°	110	122	162	199	213	115
85°	26	37	54	63	62	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	641.5	641.5	641.5	641.5	641.5
2.5°	637.8	639.7	642.4	643.3	643.3
5°	635.1	636.9	639.7	640.6	641.5
7.5°	630.5	632.3	636.0	637.8	638.7
10°	624.1	625.9	630.5	633.3	634.2
12.5°	615.9	617.7	623.2	626.9	627.8
15°	604.9	608.5	614.0	619.5	620.4
17.5°	597.6	596.7	604.0	610.4	612.2
20°	580.2	584.8	593.0	600.3	602.1
22.5°	565.5	569.2	580.2	588.4	592.1
25°	550.9	554.6	568.3	576.5	580.2
27.5°	532.6	538.1	550.9	562.8	567.4
30°	514.3	519.8	534.4	548.2	553.6
32.5°	496.0	502.4	518.0	532.6	539.0
35°	475.9	482.3	499.7	517.0	524.4
37.5°	454.8	463.0	481.3	500.6	508.8
40°	433.8	442.0	461.2	483.2	492.3
42.5°	416.4	420.0	442.0	465.8	474.9
45°	396.2	399.0	421.9	447.5	458.5
47.5°	367.0	377.0	401.7	430.1	441.1
50°	344.1	355.1	380.7	410.9	422.8
52.5°	324.9	332.2	360.6	390.8	404.5
55°	303.8	309.3	338.6	370.6	385.3
57.5°	278.2	288.3	317.5	350.5	365.1
60°	249.8	262.6	294.7	330.4	345.0
62.5°	231.5	238.8	273.6	309.3	325.8
65°	205.0	214.1	250.7	287.3	304.7
67.5°	183.0	192.2	229.7	266.3	283.7
70°	159.2	168.4	207.7	244.3	261.7
72.5°	131.8	144.6	185.8	222.4	240.7
75°	109.8	121.7	162.0	198.6	213.2
77.5°	85.1	100.7	138.2	168.4	179.4
80°	63.1	78.7	112.6	134.5	144.6
82.5°	43.0	58.6	84.2	100.7	106.2
85°	25.6	36.6	54.0	63.1	62.2
87.5°	11.9	15.6	22.0	22.0	21.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)