

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: P308949

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P308949
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-24HE-UNV-L82765-S-CP187-W2A-U-5700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 2259.0 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

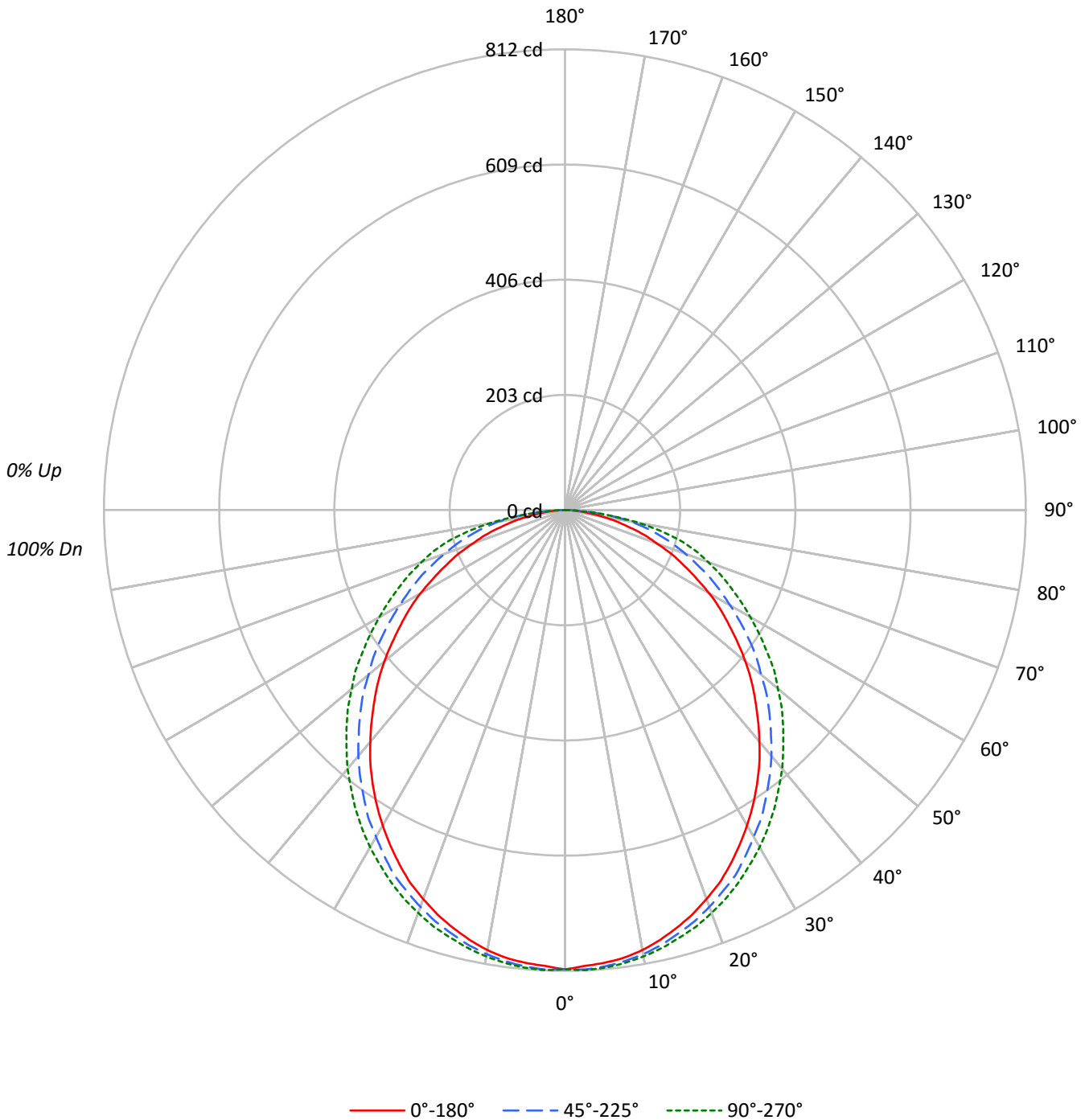
Input Watts (W): 19.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2178	2178	2178
5°	2164	2181	2187
10°	2151	2172	2183
15°	2123	2152	2173
20°	2089	2131	2164
25°	2047	2109	2150
30°	1995	2067	2132
35°	1939	2029	2112
40°	1873	1988	2092
45°	1805	1941	2070
50°	1739	1888	2052
55°	1657	1854	2037
60°	1583	1809	2031
65°	1477	1799	2053
70°	1360	1783	2115
75°	1227	1808	2225
80°	1062	1863	2091
85°	880	1562	1562



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.5	3.4
10°-20°	217.8	9.6
20°-30°	326.0	14.4
30°-40°	386.0	17.1
40°-50°	393.4	17.4
50°-60°	352.6	15.6
60°-70°	276.1	12.2
70°-80°	178.0	7.9
80°-90°	52.6	2.3
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°	620.4	27.5
0°-40°	1006.4	44.5
0°-60°	1752.4	77.6
0°-90°	2259.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2259.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	810	810	810	810	810	
5°	801	803	807	808	810	76
15°	762	766	773	779	780	215
25°	689	696	710	720	724	317
35°	590	598	618	637	643	369
45°	474	485	510	536	544	366
55°	353	365	395	423	434	317
65°	232	246	282	310	322	230
75°	118	136	174	203	214	127
85°	28	39	51	51	51	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	809.5	809.5	809.5	809.5	809.5
2.5°	804.2	806.3	810.5	811.6	811.6
5°	801.0	803.1	807.4	808.4	809.5
7.5°	795.8	796.8	802.1	804.2	805.3
10°	787.3	789.4	794.7	797.9	798.9
12.5°	775.7	778.9	785.2	789.4	790.5
15°	762.0	766.3	772.6	778.9	780.0
17.5°	747.3	751.5	759.9	767.3	769.4
20°	729.4	734.6	744.1	752.6	755.7
22.5°	711.4	715.7	727.3	737.8	741.0
25°	689.3	695.6	710.4	719.9	724.1
27.5°	666.1	673.5	688.3	700.9	705.1
30°	641.9	649.3	665.1	680.9	686.2
32.5°	616.6	625.0	644.0	659.8	665.1
35°	590.2	597.6	617.6	636.6	642.9
37.5°	562.8	569.2	592.3	612.4	618.7
40°	533.3	541.8	566.0	589.2	595.5
42.5°	503.8	513.3	537.5	562.8	569.2
45°	474.3	484.8	510.1	536.5	543.9
47.5°	445.8	454.3	482.7	508.0	518.6
50°	415.3	423.7	451.1	479.6	490.1
52.5°	383.7	395.2	424.8	452.2	464.8
55°	353.1	364.7	395.2	422.7	434.2
57.5°	324.6	334.1	365.7	394.2	405.8
60°	294.1	302.5	336.2	366.8	377.3
62.5°	261.4	274.0	308.8	337.3	349.9
65°	231.9	245.6	282.5	309.9	322.5
67.5°	204.5	217.1	253.0	282.5	296.2
70°	172.9	189.7	226.6	256.1	268.8
72.5°	147.6	162.3	200.3	229.8	243.5
75°	118.0	136.0	173.9	203.4	214.0
77.5°	93.8	111.7	147.6	170.7	176.0
80°	68.5	86.4	120.2	131.7	134.9
82.5°	46.4	63.2	86.4	89.6	90.6
85°	28.5	39.0	50.6	50.6	50.6
87.5°	13.7	15.8	17.9	16.9	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)