

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: P308944

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-S-CP187-W2A-U-3500K**

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: P308944
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-3500K
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: 2116.0 lumens
Efficiency: N/A
Efficacy: 111.4 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

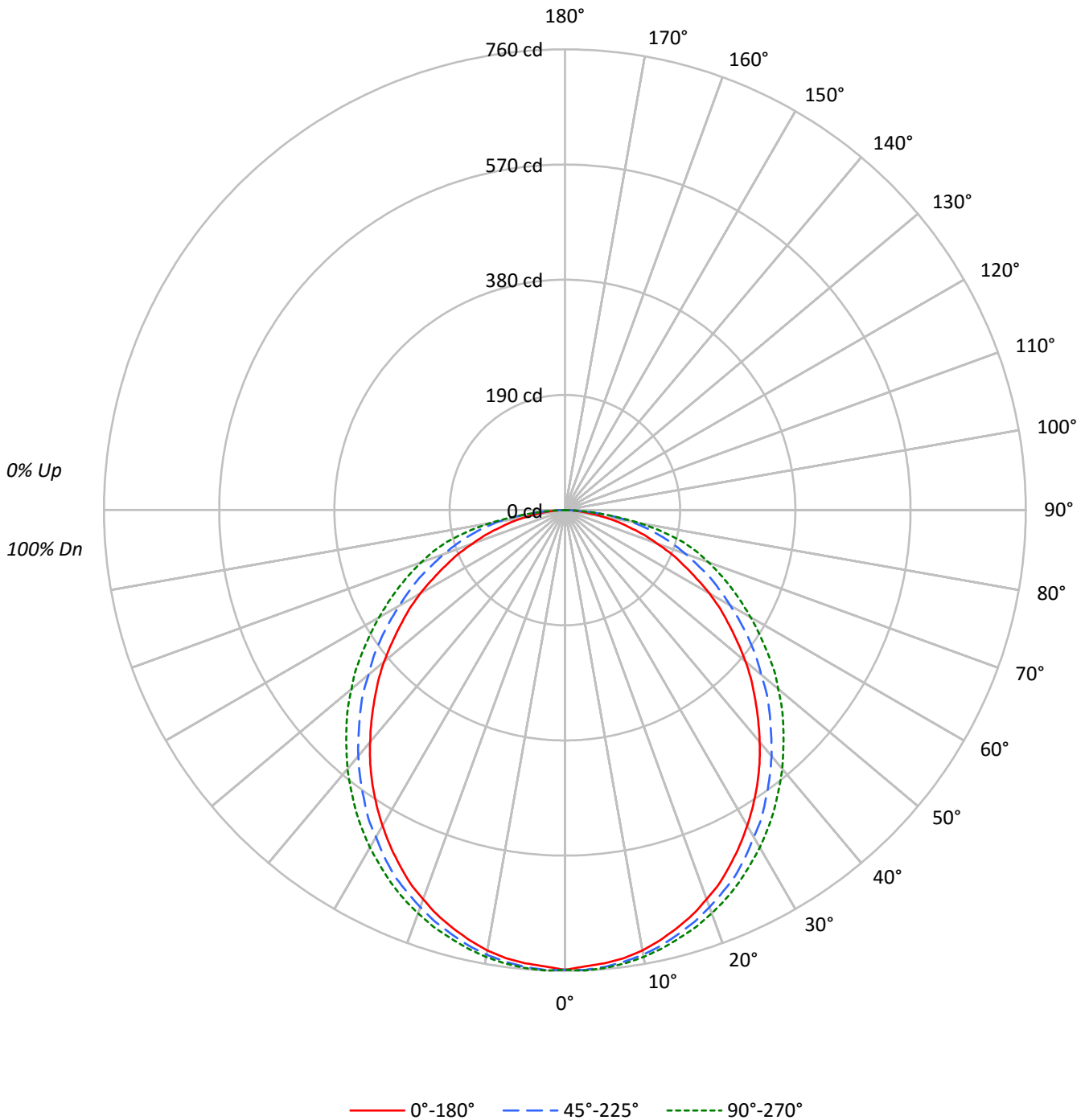
Input Watts (W): 19
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2040	2040	2040
5°	2027	2043	2048
10°	2015	2034	2045
15°	1989	2016	2035
20°	1956	1996	2027
25°	1917	1976	2014
30°	1868	1936	1997
35°	1816	1900	1978
40°	1755	1862	1959
45°	1691	1818	1939
50°	1629	1769	1922
55°	1552	1737	1909
60°	1483	1695	1902
65°	1383	1685	1924
70°	1274	1670	1981
75°	1150	1694	2084
80°	995	1743	1959
85°	824	1463	1463



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.7	3.4
10°-20°	204.1	9.6
20°-30°	305.3	14.4
30°-40°	361.6	17.1
40°-50°	368.5	17.4
50°-60°	330.3	15.6
60°-70°	258.6	12.2
70°-80°	166.7	7.9
80°-90°	49.3	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°	581.1	27.5
0°-40°	942.7	44.5
0°-60°	1641.4	77.6
0°-90°	2116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2116.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	758	758	758	758	758	
5°	750	752	756	757	758	71
15°	714	718	724	730	731	201
25°	646	652	665	674	678	297
35°	553	560	578	596	602	346
45°	444	454	478	502	509	343
55°	331	342	370	396	407	297
65°	217	230	265	290	302	216
75°	111	127	163	190	200	119
85°	27	36	47	47	47	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	758.2	758.2	758.2	758.2	758.2
2.5°	753.3	755.3	759.2	760.2	760.2
5°	750.3	752.3	756.3	757.2	758.2
7.5°	745.4	746.4	751.3	753.3	754.3
10°	737.5	739.5	744.4	747.4	748.4
12.5°	726.6	729.6	735.5	739.5	740.5
15°	713.8	717.8	723.7	729.6	730.6
17.5°	700.0	703.9	711.8	718.7	720.7
20°	683.2	688.1	697.0	704.9	707.9
22.5°	666.4	670.4	681.2	691.1	694.1
25°	645.7	651.6	665.4	674.3	678.3
27.5°	624.0	630.9	644.7	656.5	660.5
30°	601.3	608.2	623.0	637.8	642.7
32.5°	577.6	585.5	603.2	618.0	623.0
35°	552.9	559.8	578.5	596.3	602.2
37.5°	527.2	533.1	554.8	573.6	579.5
40°	499.6	507.5	530.2	551.9	557.8
42.5°	471.9	480.8	503.5	527.2	533.1
45°	444.3	454.1	477.8	502.5	509.4
47.5°	417.6	425.5	452.2	475.9	485.7
50°	389.0	396.9	422.6	449.2	459.1
52.5°	359.4	370.2	397.9	423.5	435.4
55°	330.7	341.6	370.2	395.9	406.8
57.5°	304.1	313.0	342.6	369.2	380.1
60°	275.5	283.3	314.9	343.6	353.4
62.5°	244.8	256.7	289.3	315.9	327.8
65°	217.2	230.0	264.6	290.3	302.1
67.5°	191.5	203.4	236.9	264.6	277.4
70°	161.9	177.7	212.3	239.9	251.8
72.5°	138.2	152.0	187.6	215.2	228.1
75°	110.6	127.4	162.9	190.5	200.4
77.5°	87.9	104.7	138.2	159.9	164.9
80°	64.2	81.0	112.5	123.4	126.4
82.5°	43.4	59.2	81.0	83.9	84.9
85°	26.7	36.5	47.4	47.4	47.4
87.5°	12.8	14.8	16.8	15.8	15.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)