

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: P308136

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-HRP-CP187-W2A-U-4500K**

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: P308136
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: 22FCZ2-24HE-UNV-L82765-HRP-CP187-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 1621.0 lumens
Efficiency: N/A
Efficacy: 84.0 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

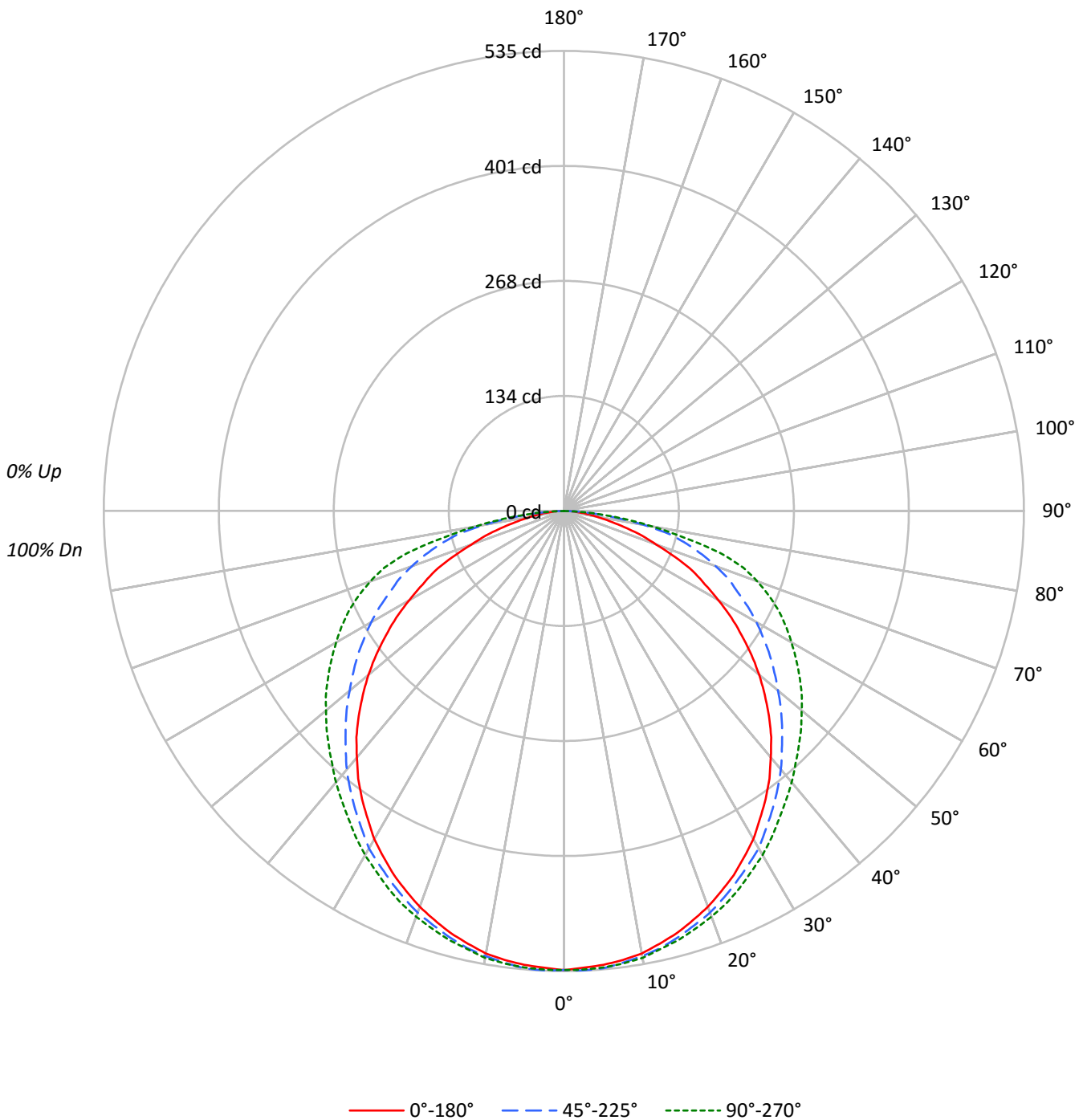
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1436	1436	1436
5°	1431	1442	1439
10°	1428	1436	1442
15°	1416	1430	1439
20°	1403	1423	1438
25°	1387	1412	1436
30°	1369	1408	1436
35°	1344	1391	1434
40°	1315	1379	1448
45°	1284	1366	1471
50°	1241	1361	1511
55°	1185	1372	1569
60°	1117	1392	1645
65°	1055	1419	1758
70°	901	1481	1883
75°	755	1542	1957
80°	618	1489	1632
85°	537	1105	1201



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.6	3.1
10°-20°	144.7	8.9
20°-30°	219.3	13.5
30°-40°	264.8	16.3
40°-50°	278.3	17.2
50°-60°	261.8	16.2
60°-70°	218.3	13.5
70°-80°	144.6	8.9
80°-90°	38.6	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°	414.6	25.6
0°-40°	679.4	41.9
0°-60°	1219.5	75.2
0°-90°	1621.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1621.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	534	534	534	534	534	
5°	530	531	534	534	533	50
15°	508	510	513	515	516	143
25°	467	470	476	482	484	215
35°	409	413	423	432	437	256
45°	337	343	359	377	386	260
55°	253	264	292	322	334	226
65°	166	180	223	260	276	161
75°	73	101	148	179	188	79
85°	17	27	36	39	39	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	533.8	533.8	533.8	533.8	533.8
2.5°	531.7	532.8	534.8	534.8	533.8
5°	529.7	530.7	533.8	533.8	532.8
7.5°	526.6	527.6	529.7	531.7	530.7
10°	522.5	523.6	525.6	527.6	527.6
12.5°	515.4	516.4	520.5	521.5	521.5
15°	508.2	510.3	513.3	515.4	516.4
17.5°	499.0	501.1	505.1	509.2	509.2
20°	489.8	491.9	497.0	501.1	502.1
22.5°	478.6	481.6	486.7	491.9	493.9
25°	467.3	470.4	475.5	481.6	483.7
27.5°	454.0	457.1	464.2	471.4	472.4
30°	440.7	443.8	453.0	459.1	462.2
32.5°	424.4	428.5	437.7	446.9	449.9
35°	409.0	413.1	423.3	432.5	436.6
37.5°	392.7	396.8	408.0	419.3	424.4
40°	374.3	379.4	392.7	404.9	412.1
42.5°	356.9	362.0	375.3	391.6	398.8
45°	337.4	342.6	358.9	377.3	386.5
47.5°	317.0	323.1	342.6	365.1	374.3
50°	296.5	303.7	325.2	350.7	361.0
52.5°	275.1	284.3	308.8	336.4	348.7
55°	252.6	263.8	292.5	322.1	334.4
57.5°	231.1	241.3	275.1	306.8	320.1
60°	207.6	220.9	258.7	291.4	305.7
62.5°	185.1	199.4	241.3	276.1	291.4
65°	165.7	180.0	222.9	259.7	276.1
67.5°	140.1	159.5	207.6	242.3	258.7
70°	114.5	141.1	188.2	223.9	239.3
72.5°	95.1	120.7	168.7	204.5	218.8
75°	72.6	101.2	148.3	178.9	188.2
77.5°	54.2	83.9	126.8	142.1	143.2
80°	39.9	64.4	96.1	101.2	105.3
82.5°	27.6	45.0	62.4	68.5	70.6
85°	17.4	26.6	35.8	38.9	38.9
87.5°	9.2	10.2	12.3	12.3	12.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)