

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: P312486

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-HRP-CP250-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: P312486
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-L83050-HRP-CP250-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 3500K 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: 1640.0 lumens
Efficiency: N/A
Efficacy: 86.8 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

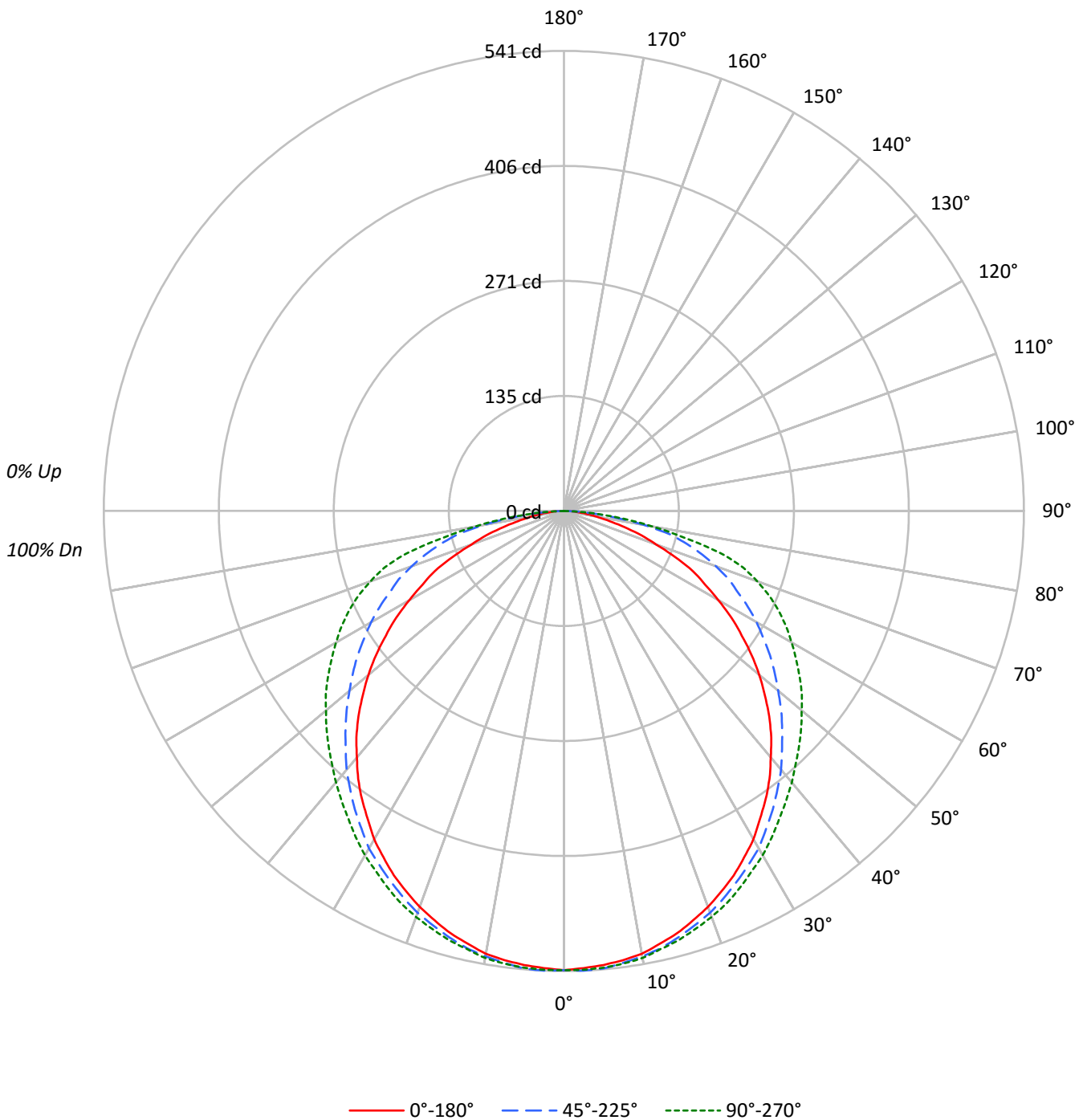
Input Watts (W): 18.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1453	1453	1453
5°	1448	1459	1456
10°	1445	1453	1459
15°	1433	1447	1455
20°	1419	1440	1455
25°	1404	1428	1453
30°	1386	1424	1453
35°	1359	1407	1451
40°	1330	1396	1464
45°	1299	1382	1488
50°	1256	1377	1529
55°	1199	1388	1587
60°	1130	1408	1665
65°	1067	1436	1778
70°	912	1498	1905
75°	764	1560	1980
80°	625	1506	1652
85°	543	1118	1213



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.2	3.1
10°-20°	146.4	8.9
20°-30°	221.9	13.5
30°-40°	267.9	16.3
40°-50°	281.5	17.2
50°-60°	264.9	16.2
60°-70°	220.9	13.5
70°-80°	146.3	8.9
80°-90°	39.0	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°	419.5	25.6
0°-40°	687.4	41.9
0°-60°	1233.8	75.2
0°-90°	1640.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1640.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	540	540	540	540	540	
5°	536	537	540	540	539	51
15°	514	516	519	521	522	145
25°	473	476	481	487	489	218
35°	414	418	428	438	442	259
45°	341	347	363	382	391	263
55°	256	267	296	326	338	229
65°	168	182	226	263	279	163
75°	74	102	150	181	190	80
85°	18	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°	540.0	540.0	540.0	540.0	540.0
2.5°	538.0	539.0	541.1	541.1	540.0
5°	535.9	536.9	540.0	540.0	539.0
7.5°	532.8	533.8	535.9	538.0	536.9
10°	528.7	529.7	531.8	533.8	533.8
12.5°	521.4	522.4	526.6	527.6	527.6
15°	514.2	516.2	519.3	521.4	522.4
17.5°	504.9	506.9	511.1	515.2	515.2
20°	495.5	497.6	502.8	506.9	508.0
22.5°	484.2	487.3	492.4	497.6	499.7
25°	472.8	475.9	481.1	487.3	489.3
27.5°	459.3	462.4	469.7	476.9	478.0
30°	445.9	449.0	458.3	464.5	467.6
32.5°	429.3	433.5	442.8	452.1	455.2
35°	413.8	418.0	428.3	437.6	441.8
37.5°	397.3	401.4	412.8	424.2	429.3
40°	378.6	383.8	397.3	409.7	416.9
42.5°	361.1	366.2	379.7	396.2	403.5
45°	341.4	346.6	363.1	381.7	391.1
47.5°	320.7	326.9	346.6	369.3	378.6
50°	300.0	307.3	329.0	354.8	365.2
52.5°	278.3	287.6	312.4	340.4	352.8
55°	255.5	266.9	295.9	325.9	338.3
57.5°	233.8	244.2	278.3	310.4	323.8
60°	210.0	223.5	261.7	294.8	309.3
62.5°	187.3	201.7	244.2	279.3	294.8
65°	167.6	182.1	225.5	262.8	279.3
67.5°	141.7	161.4	210.0	245.2	261.7
70°	115.9	142.8	190.4	226.6	242.1
72.5°	96.2	122.1	170.7	206.9	221.4
75°	73.5	102.4	150.0	181.0	190.4
77.5°	54.8	84.8	128.3	143.8	144.8
80°	40.3	65.2	97.2	102.4	106.6
82.5°	27.9	45.5	63.1	69.3	71.4
85°	17.6	26.9	36.2	39.3	39.3
87.5°	9.3	10.3	12.4	12.4	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)