

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: P312481

Luminaire Tested: **22FCZ2-24HE-UNV-L83050-HRP-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: P312481
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-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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: 1654.0 lumens
Efficiency: N/A
Efficacy: 87.5 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

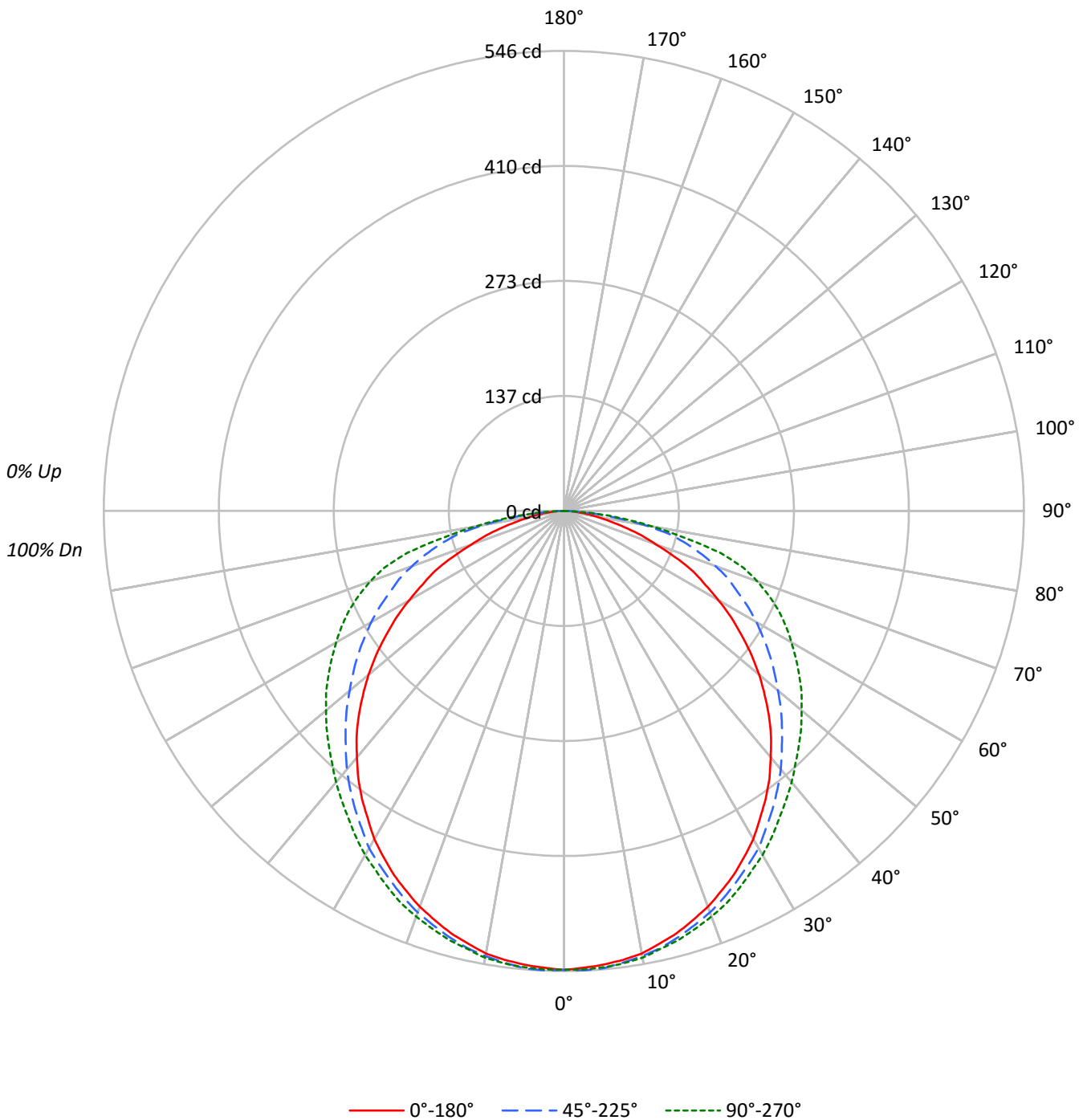
Input Watts (W): 18.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1466	1466	1466
5°	1460	1471	1468
10°	1457	1465	1471
15°	1445	1459	1468
20°	1431	1452	1467
25°	1416	1441	1465
30°	1397	1436	1465
35°	1371	1419	1464
40°	1342	1408	1477
45°	1310	1394	1501
50°	1267	1389	1542
55°	1209	1400	1601
60°	1140	1421	1679
65°	1076	1449	1794
70°	920	1511	1921
75°	770	1573	1996
80°	631	1520	1666
85°	546	1127	1223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.6	3.1
10°-20°	147.7	8.9
20°-30°	223.8	13.5
30°-40°	270.2	16.3
40°-50°	283.9	17.2
50°-60°	267.2	16.2
60°-70°	222.8	13.5
70°-80°	147.6	8.9
80°-90°	39.3	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°	423.1	25.6
0°-40°	693.3	41.9
0°-60°	1244.3	75.2
0°-90°	1654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1654.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	545	545	545	545	545	
5°	540	542	545	545	544	51
15°	519	521	524	526	527	146
25°	477	480	485	491	494	220
35°	417	422	432	441	446	261
45°	344	350	366	385	394	265
55°	258	269	298	329	341	231
65°	169	184	228	265	282	164
75°	74	103	151	183	192	80
85°	18	27	36	40	40	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	544.6	544.6	544.6	544.6	544.6
2.5°	542.6	543.6	545.7	545.7	544.6
5°	540.5	541.5	544.6	544.6	543.6
7.5°	537.3	538.4	540.5	542.6	541.5
10°	533.2	534.2	536.3	538.4	538.4
12.5°	525.9	526.9	531.1	532.1	532.1
15°	518.6	520.6	523.8	525.9	526.9
17.5°	509.2	511.3	515.4	519.6	519.6
20°	499.8	501.9	507.1	511.3	512.3
22.5°	488.3	491.4	496.6	501.9	504.0
25°	476.8	480.0	485.2	491.4	493.5
27.5°	463.3	466.4	473.7	481.0	482.0
30°	449.7	452.8	462.2	468.5	471.6
32.5°	433.0	437.2	446.6	456.0	459.1
35°	417.4	421.5	432.0	441.3	445.5
37.5°	400.7	404.8	416.3	427.8	433.0
40°	381.9	387.1	400.7	413.2	420.5
42.5°	364.1	369.4	382.9	399.6	406.9
45°	344.3	349.5	366.2	385.0	394.4
47.5°	323.4	329.7	349.5	372.5	381.9
50°	302.6	309.9	331.8	357.9	368.3
52.5°	280.7	290.1	315.1	343.3	355.8
55°	257.7	269.2	298.4	328.7	341.2
57.5°	235.8	246.2	280.7	313.0	326.6
60°	211.8	225.4	264.0	297.4	312.0
62.5°	188.9	203.5	246.2	281.7	297.4
65°	169.0	183.6	227.5	265.0	281.7
67.5°	142.9	162.8	211.8	247.3	264.0
70°	116.9	144.0	192.0	228.5	244.2
72.5°	97.0	123.1	172.2	208.7	223.3
75°	74.1	103.3	151.3	182.6	192.0
77.5°	55.3	85.6	129.4	145.0	146.1
80°	40.7	65.7	98.1	103.3	107.5
82.5°	28.2	45.9	63.6	69.9	72.0
85°	17.7	27.1	36.5	39.6	39.6
87.5°	9.4	10.4	12.5	12.5	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)