

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: P312512

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CP250-W2A-U-4000K**

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: P312512
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: 22FCZ2-29HE-UNV-L83050-HRP-CP250-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4000K 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: 2014.0 lumens
Efficiency: N/A
Efficacy: 87.9 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

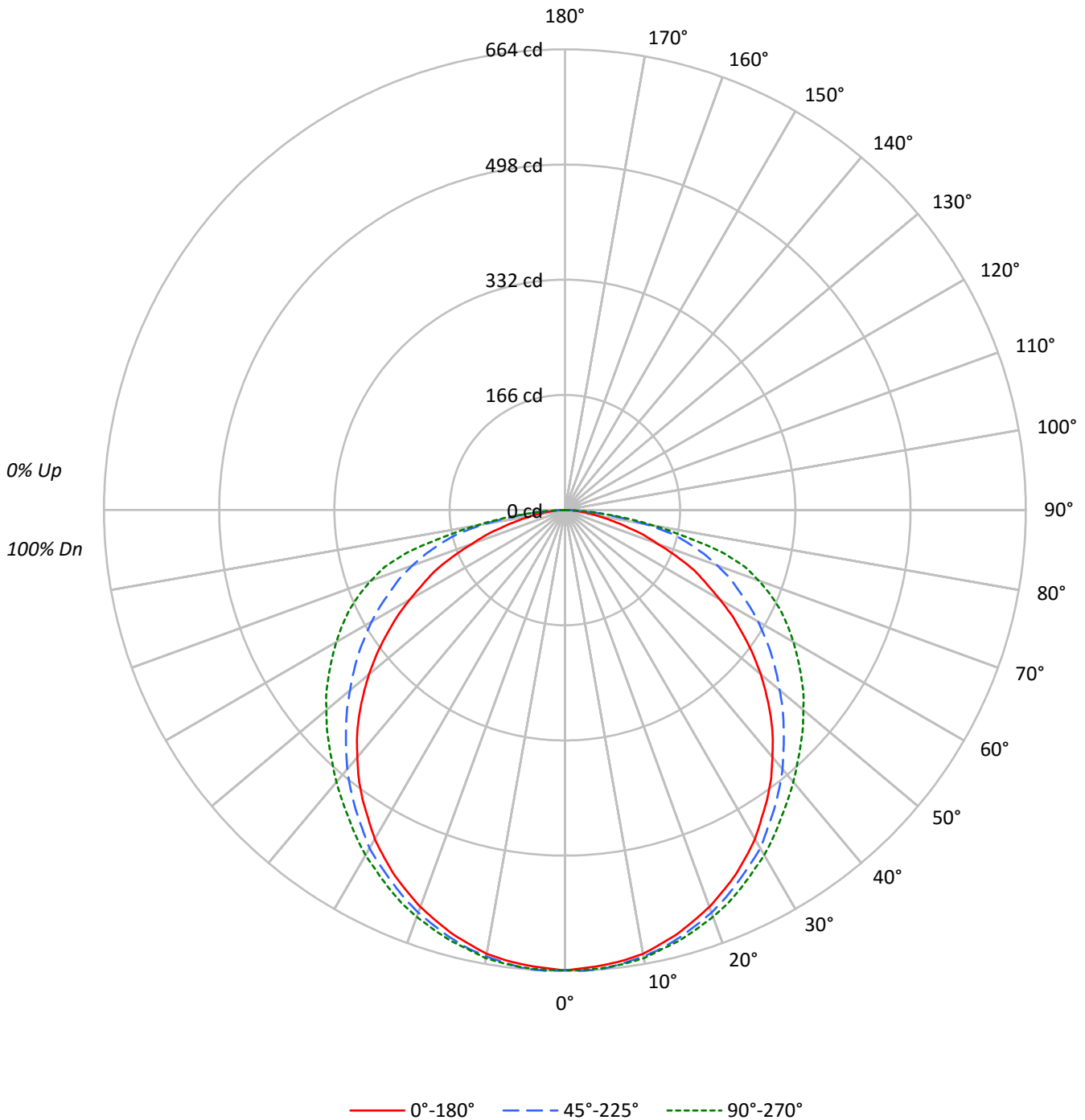
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1785	1785	1785
5°	1778	1791	1788
10°	1774	1784	1791
15°	1759	1777	1787
20°	1743	1768	1786
25°	1724	1754	1784
30°	1702	1749	1785
35°	1669	1728	1782
40°	1633	1714	1799
45°	1596	1697	1827
50°	1542	1691	1878
55°	1472	1705	1949
60°	1388	1730	2045
65°	1310	1764	2184
70°	1120	1840	2339
75°	938	1915	2431
80°	767	1850	2029
85°	667	1374	1491



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	3.1
10°-20°	179.8	8.9
20°-30°	272.5	13.5
30°-40°	329.0	16.3
40°-50°	345.7	17.2
50°-60°	325.3	16.2
60°-70°	271.2	13.5
70°-80°	179.7	8.9
80°-90°	47.9	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°	515.1	25.6
0°-40°	844.1	41.9
0°-60°	1515.2	75.2
0°-90°	2014.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2014.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	658	659	663	663	662	63
15°	631	634	638	640	642	178
25°	581	584	591	598	601	267
35°	508	513	526	537	542	318
45°	419	426	446	469	480	323
55°	314	328	363	400	415	281
65°	206	224	277	323	343	200
75°	90	126	184	222	234	98
85°	22	33	44	48	48	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	663.2	663.2	663.2	663.2	663.2
2.5°	660.6	661.9	664.5	664.5	663.2
5°	658.1	659.4	663.2	663.2	661.9
7.5°	654.3	655.6	658.1	660.6	659.4
10°	649.2	650.5	653.0	655.6	655.6
12.5°	640.3	641.6	646.7	647.9	647.9
15°	631.4	634.0	637.8	640.3	641.6
17.5°	620.0	622.5	627.6	632.7	632.7
20°	608.6	611.1	617.5	622.5	623.8
22.5°	594.6	598.4	604.7	611.1	613.6
25°	580.6	584.4	590.8	598.4	600.9
27.5°	564.1	567.9	576.8	585.7	587.0
30°	547.6	551.4	562.8	570.4	574.3
32.5°	527.2	532.3	543.8	555.2	559.0
35°	508.2	513.3	526.0	537.4	542.5
37.5°	487.9	492.9	506.9	520.9	527.2
40°	465.0	471.3	487.9	503.1	512.0
42.5°	443.4	449.7	466.3	486.6	495.5
45°	419.3	425.6	445.9	468.8	480.2
47.5°	393.8	401.5	425.6	453.6	465.0
50°	368.4	377.3	404.0	435.8	448.5
52.5°	341.8	353.2	383.7	418.0	433.2
55°	313.8	327.8	363.4	400.2	415.4
57.5°	287.1	299.8	341.8	381.1	397.7
60°	257.9	274.4	321.4	362.1	379.9
62.5°	230.0	247.7	299.8	343.0	362.1
65°	205.8	223.6	277.0	322.7	343.0
67.5°	174.1	198.2	257.9	301.1	321.4
70°	142.3	175.3	233.8	278.2	297.3
72.5°	118.2	149.9	209.6	254.1	271.9
75°	90.2	125.8	184.2	222.3	233.8
77.5°	67.3	104.2	157.5	176.6	177.9
80°	49.5	80.0	119.4	125.8	130.9
82.5°	34.3	55.9	77.5	85.1	87.7
85°	21.6	33.0	44.5	48.3	48.3
87.5°	11.4	12.7	15.2	15.2	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)