

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: P312490

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-HRP-CA08-W2A-U-3000K**

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: P312490
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-CA08-W2A-U-3000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 1953.0 lumens
Efficiency: N/A
Efficacy: 87.2 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

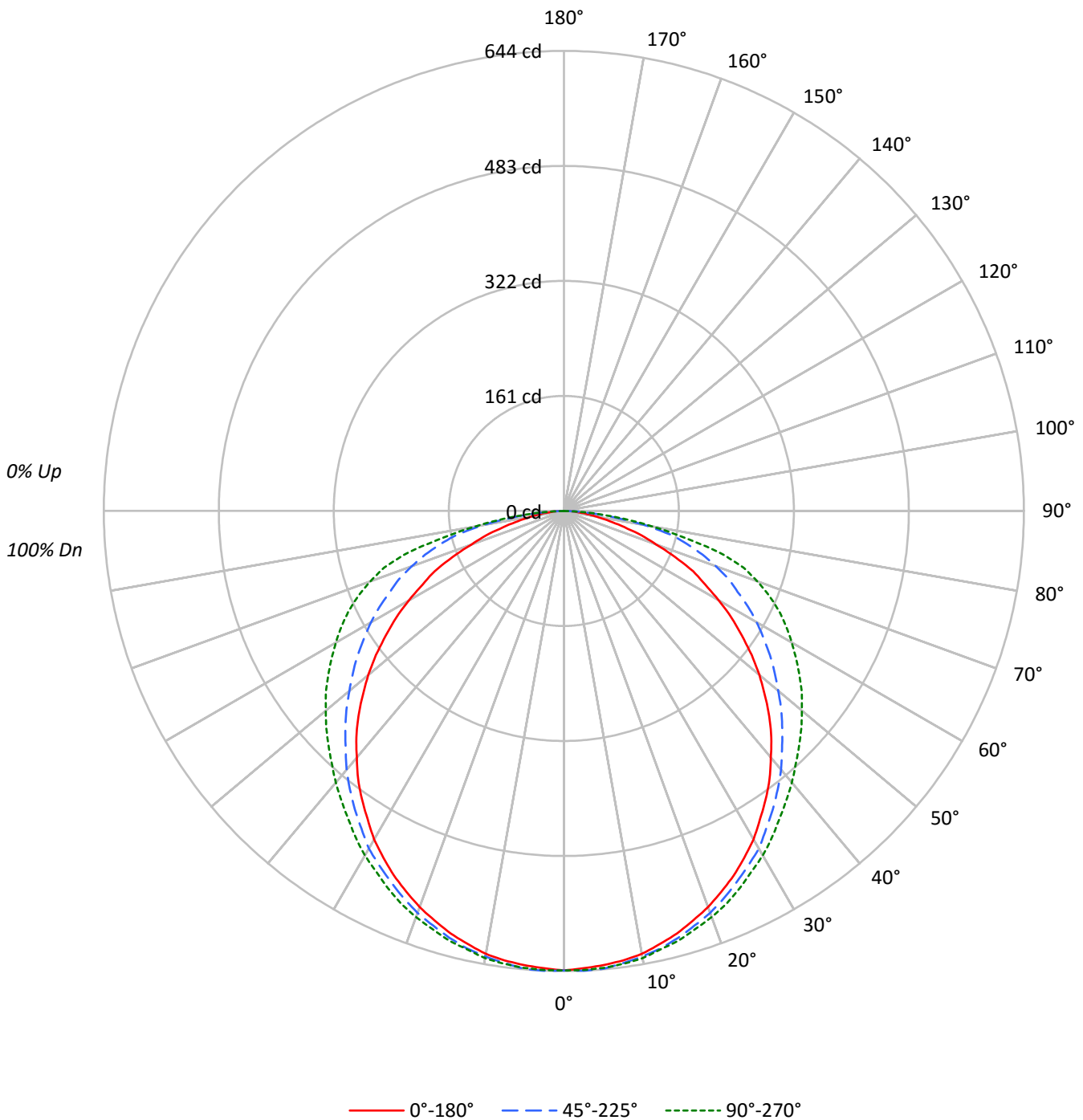
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1731	1731	1731
5°	1724	1737	1734
10°	1720	1730	1737
15°	1706	1723	1733
20°	1690	1714	1732
25°	1672	1701	1730
30°	1650	1696	1730
35°	1619	1675	1728
40°	1584	1662	1744
45°	1547	1646	1772
50°	1496	1640	1821
55°	1428	1653	1890
60°	1346	1678	1983
65°	1271	1710	2118
70°	1086	1784	2268
75°	910	1857	2357
80°	744	1795	1967
85°	645	1331	1445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.0	3.1
10°-20°	174.3	8.9
20°-30°	264.2	13.5
30°-40°	319.1	16.3
40°-50°	335.3	17.2
50°-60°	315.4	16.2
60°-70°	263.0	13.5
70°-80°	174.3	8.9
80°-90°	46.4	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°	499.5	25.6
0°-40°	818.6	41.9
0°-60°	1469.3	75.2
0°-90°	1953.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1953.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	643	643	643	643	643	
5°	638	639	643	643	642	61
15°	612	615	618	621	622	173
25°	563	567	573	580	583	259
35°	493	498	510	521	526	308
45°	407	413	432	455	466	313
55°	304	318	352	388	403	272
65°	200	217	269	313	333	194
75°	88	122	179	216	227	95
85°	21	32	43	47	47	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	643.1	643.1	643.1	643.1	643.1
2.5°	640.6	641.9	644.3	644.3	643.1
5°	638.2	639.4	643.1	643.1	641.9
7.5°	634.5	635.7	638.2	640.6	639.4
10°	629.5	630.8	633.2	635.7	635.7
12.5°	620.9	622.2	627.1	628.3	628.3
15°	612.3	614.8	618.5	620.9	622.2
17.5°	601.2	603.7	608.6	613.5	613.5
20°	590.1	592.6	598.7	603.7	604.9
22.5°	576.6	580.3	586.4	592.6	595.1
25°	563.0	566.7	572.9	580.3	582.7
27.5°	547.0	550.7	559.3	567.9	569.2
30°	531.0	534.7	545.8	553.2	556.9
32.5°	511.3	516.2	527.3	538.4	542.1
35°	492.8	497.7	510.0	521.1	526.1
37.5°	473.1	478.0	491.6	505.1	511.3
40°	450.9	457.1	473.1	487.9	496.5
42.5°	430.0	436.1	452.1	471.9	480.5
45°	406.6	412.7	432.4	454.6	465.7
47.5°	381.9	389.3	412.7	439.8	450.9
50°	357.3	365.9	391.8	422.6	434.9
52.5°	331.4	342.5	372.1	405.3	420.1
55°	304.3	317.9	352.4	388.1	402.9
57.5°	278.4	290.8	331.4	369.6	385.6
60°	250.1	266.1	311.7	351.1	368.4
62.5°	223.0	240.2	290.8	332.6	351.1
65°	199.6	216.8	268.6	312.9	332.6
67.5°	168.8	192.2	250.1	292.0	311.7
70°	138.0	170.0	226.7	269.8	288.3
72.5°	114.6	145.4	203.3	246.4	263.6
75°	87.5	122.0	178.6	215.6	226.7
77.5°	65.3	101.0	152.8	171.2	172.5
80°	48.0	77.6	115.8	122.0	126.9
82.5°	33.3	54.2	75.2	82.5	85.0
85°	20.9	32.0	43.1	46.8	46.8
87.5°	11.1	12.3	14.8	14.8	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)