

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: P312656

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-RDP-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: P312656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)
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-RDP-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 1608.0 lumens
Efficiency: N/A
Efficacy: 71.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

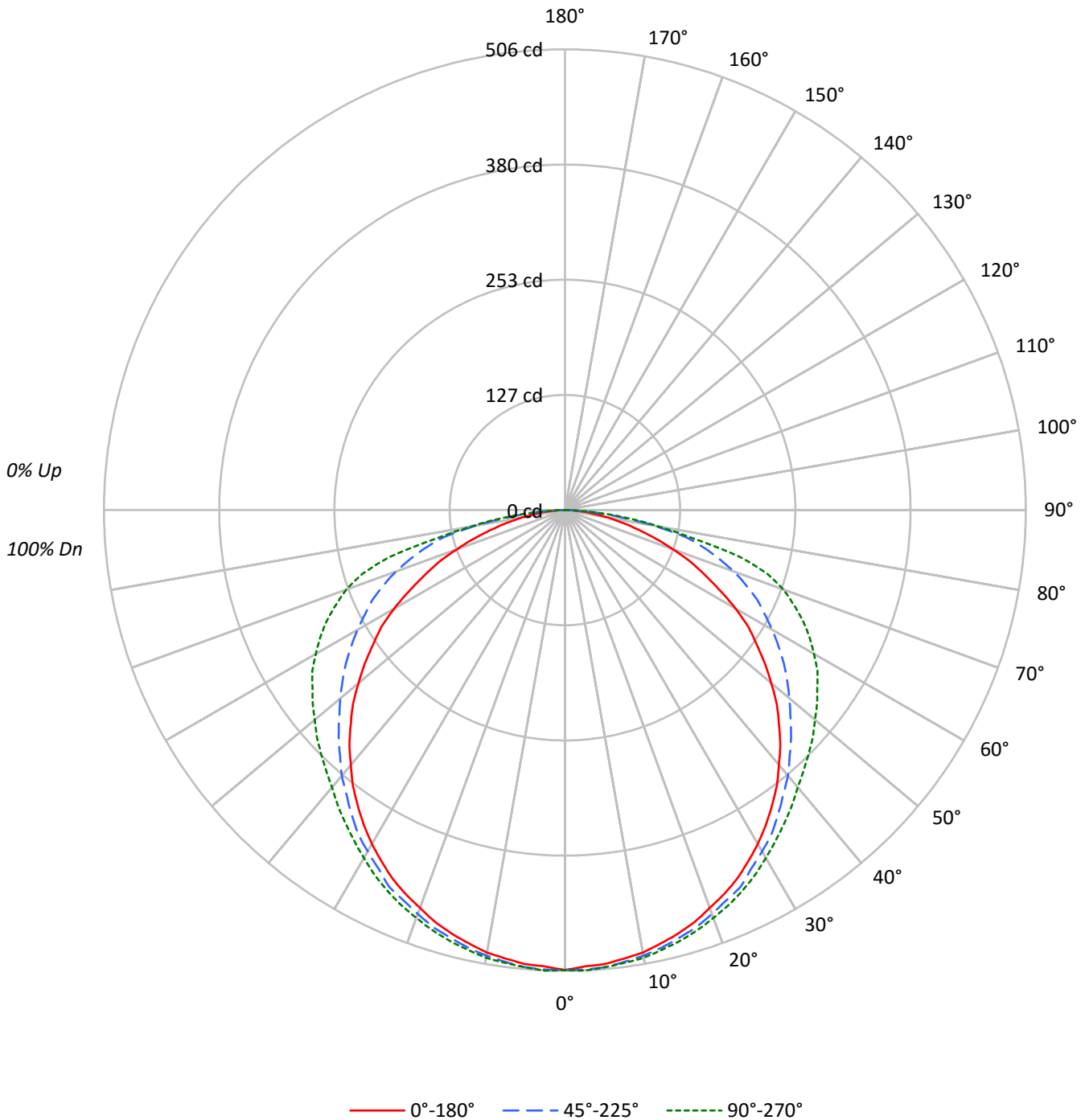
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1359	1359	1359
5°	1352	1361	1361
10°	1348	1358	1364
15°	1341	1355	1364
20°	1331	1352	1365
25°	1328	1356	1370
30°	1316	1345	1371
35°	1302	1341	1379
40°	1284	1338	1396
45°	1265	1337	1440
50°	1238	1347	1500
55°	1204	1377	1587
60°	1165	1413	1700
65°	1084	1484	1838
70°	996	1554	2010
75°	873	1635	2078
80°	752	1557	1632
85°	658	1133	1241



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.8	3.0
10°-20°	137.2	8.5
20°-30°	209.3	13.0
30°-40°	255.6	15.9
40°-50°	273.2	17.0
50°-60°	263.7	16.4
60°-70°	227.0	14.1
70°-80°	153.6	9.6
80°-90°	40.5	2.5
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°	394.3	24.5
0°-40°	649.8	40.4
0°-60°	1186.8	73.8
0°-90°	1608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	505	505	505	505	505	
5°	500	502	504	504	504	48
15°	481	483	486	488	490	136
25°	447	450	457	459	461	206
35°	396	400	408	416	420	248
45°	332	338	351	369	378	257
55°	257	265	293	323	338	230
65°	170	187	233	270	289	169
75°	84	111	157	189	200	90
85°	21	30	37	38	40	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	505.1	505.1	505.1	505.1	505.1
2.5°	501.6	502.7	505.1	505.1	506.3
5°	500.4	501.6	503.9	503.9	503.9
7.5°	496.8	498.0	500.4	501.6	501.6
10°	493.3	494.5	496.8	498.0	499.2
12.5°	487.4	488.5	492.1	494.5	494.5
15°	481.4	482.6	486.2	488.5	489.7
17.5°	474.3	476.7	480.3	482.6	483.8
20°	464.9	467.2	472.0	475.5	476.7
22.5°	456.6	459.0	463.7	467.2	469.6
25°	447.1	449.5	456.6	459.0	461.3
27.5°	435.3	437.7	443.6	448.3	451.9
30°	423.5	425.8	432.9	438.9	441.2
32.5°	410.5	414.0	422.3	427.0	430.6
35°	396.3	399.8	408.1	416.4	419.9
37.5°	382.1	385.6	393.9	404.6	409.3
40°	365.5	370.2	380.9	395.1	397.5
42.5°	350.1	356.1	365.5	382.1	388.0
45°	332.4	338.3	351.3	369.1	378.5
47.5°	315.8	321.8	335.9	357.2	369.1
50°	295.7	304.0	321.8	346.6	358.4
52.5°	276.8	283.9	307.6	334.8	349.0
55°	256.7	265.0	293.4	322.9	338.3
57.5°	238.9	246.0	278.0	311.1	328.8
60°	216.5	225.9	262.6	298.1	315.8
62.5°	192.8	207.0	247.2	283.9	302.8
65°	170.3	186.9	233.0	269.7	288.6
67.5°	150.2	168.0	215.3	254.3	272.1
70°	126.6	149.0	197.5	235.4	255.5
72.5°	105.3	130.1	177.4	215.3	233.0
75°	84.0	111.2	157.3	189.3	199.9
77.5°	65.1	91.1	134.9	144.3	145.5
80°	48.5	72.2	100.5	101.7	105.3
82.5°	33.1	50.9	65.1	71.0	72.2
85°	21.3	29.6	36.7	37.9	40.2
87.5°	9.5	10.6	13.0	11.8	11.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)