

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: P312809

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CP187-W2A-U-5000K**

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: P312809
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CP187-W2A-U-5000K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2546.0 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

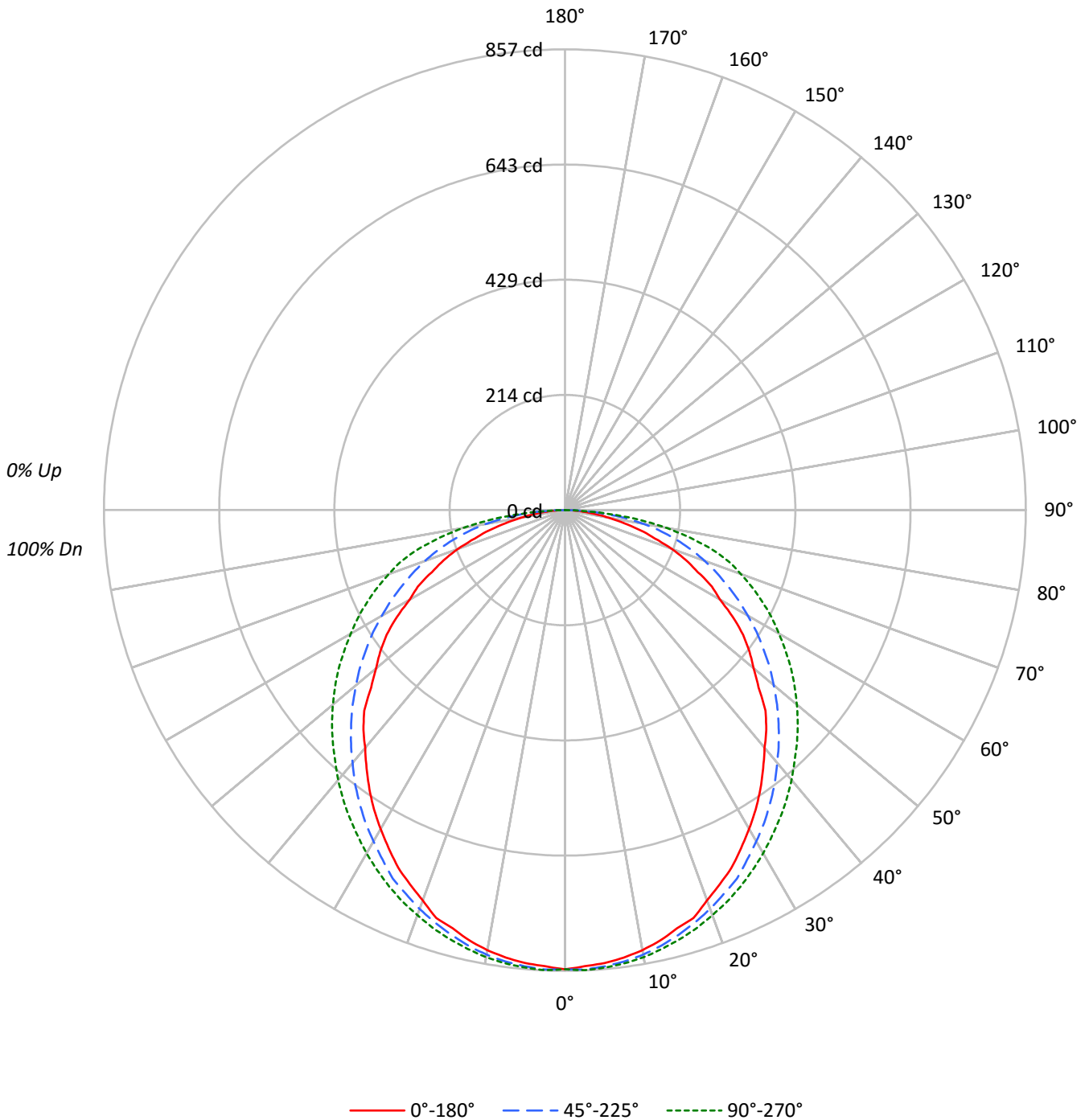
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	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	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
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	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2299	2299	2299
5°	2284	2301	2307
10°	2271	2294	2308
15°	2244	2278	2302
20°	2212	2261	2296
25°	2178	2247	2294
30°	2128	2211	2291
35°	2081	2186	2294
40°	2029	2157	2303
45°	2008	2138	2323
50°	1918	2122	2357
55°	1898	2115	2407
60°	1791	2112	2472
65°	1738	2126	2584
70°	1668	2176	2742
75°	1520	2243	2952
80°	1303	2323	2983
85°	1053	2220	2560



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.8	3.2
10°-20°	230.6	9.1
20°-30°	347.0	13.6
30°-40°	416.5	16.4
40°-50°	435.3	17.1
50°-60°	405.7	15.9
60°-70°	332.8	13.1
70°-80°	224.2	8.8
80°-90°	73.0	2.9
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°	658.4	25.9
0°-40°	1075.0	42.2
0°-60°	1916.0	75.3
0°-90°	2546.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2546.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	854	854	854	854	854	
5°	846	848	852	853	854	80
15°	806	810	818	825	826	228
25°	734	738	757	768	773	337
35°	634	642	665	688	698	396
45°	528	531	562	596	610	403
55°	405	412	451	494	513	358
65°	273	285	334	383	406	272
75°	146	162	216	264	284	154
85°	34	49	72	84	83	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	854.2	854.2	854.2	854.2	854.2
2.5°	849.3	851.8	855.4	856.6	856.6
5°	845.7	848.1	851.8	853.0	854.2
7.5°	839.6	842.0	846.9	849.3	850.5
10°	831.1	833.5	839.6	843.2	844.5
12.5°	820.1	822.5	829.8	834.7	835.9
15°	805.5	810.3	817.6	825.0	826.2
17.5°	795.7	794.5	804.2	812.8	815.2
20°	772.6	778.7	789.6	799.4	801.8
22.5°	753.1	757.9	772.6	783.5	788.4
25°	733.6	738.4	756.7	767.7	772.6
27.5°	709.2	716.5	733.6	749.4	755.5
30°	684.8	692.1	711.6	729.9	737.2
32.5°	660.5	669.0	689.7	709.2	717.7
35°	633.6	642.2	665.3	688.5	698.2
37.5°	605.6	616.6	641.0	666.5	677.5
40°	577.6	588.6	614.1	643.4	655.6
42.5°	554.4	559.3	588.6	620.2	632.4
45°	527.6	531.3	561.8	595.9	610.5
47.5°	488.6	502.0	534.9	572.7	587.3
50°	458.2	472.8	506.9	547.1	563.0
52.5°	432.6	442.3	480.1	520.3	538.6
55°	404.6	411.9	450.9	493.5	513.0
57.5°	370.4	383.8	422.8	466.7	486.2
60°	332.7	349.7	392.4	439.9	459.4
62.5°	308.3	318.0	364.3	411.9	433.8
65°	273.0	285.1	333.9	382.6	405.8
67.5°	243.7	255.9	305.9	354.6	377.8
70°	212.0	224.2	276.6	325.4	348.5
72.5°	175.5	192.5	247.4	296.1	320.5
75°	146.2	162.1	215.7	264.4	283.9
77.5°	113.3	134.0	184.0	224.2	238.8
80°	84.1	104.8	149.9	179.1	192.5
82.5°	57.3	78.0	112.1	134.0	141.4
85°	34.1	48.7	71.9	84.1	82.9
87.5°	15.8	20.7	29.2	29.2	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)