

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: P308995

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-S-CP187-W2A-U-6500K**

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: P308995
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
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-L82765-S-CP187-W2A-U-6500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 2648.0 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

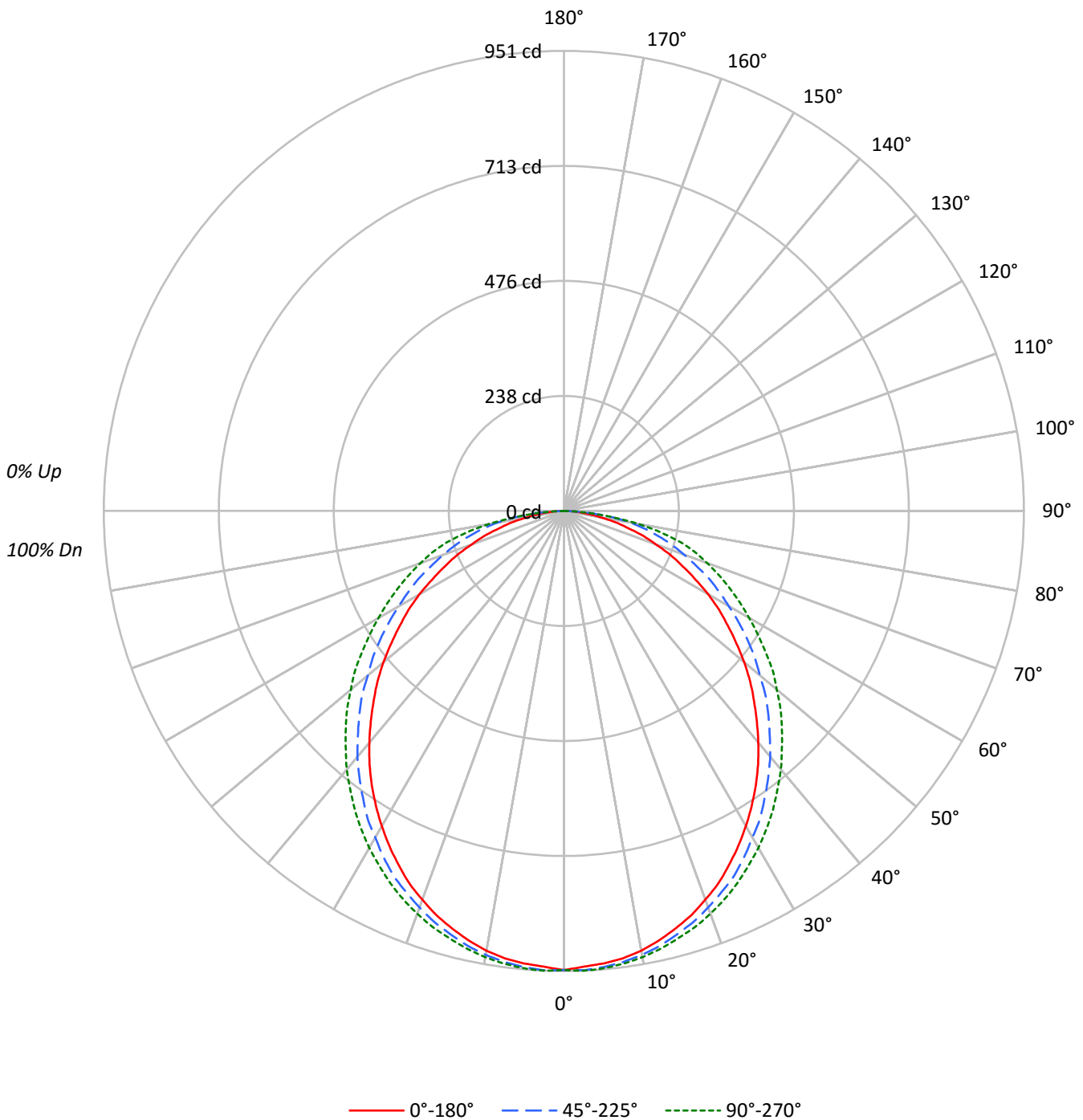
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2553	2553	2553
5°	2536	2556	2563
10°	2522	2546	2559
15°	2489	2523	2547
20°	2448	2498	2537
25°	2399	2472	2520
30°	2338	2422	2499
35°	2273	2378	2476
40°	2196	2331	2452
45°	2116	2276	2426
50°	2038	2214	2405
55°	1942	2174	2388
60°	1855	2121	2380
65°	1731	2108	2408
70°	1594	2090	2479
75°	1439	2120	2608
80°	1244	2182	2450
85°	1031	1831	1831



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.7	3.4
10°-20°	255.4	9.6
20°-30°	382.1	14.4
30°-40°	452.5	17.1
40°-50°	461.1	17.4
50°-60°	413.3	15.6
60°-70°	323.6	12.2
70°-80°	208.7	7.9
80°-90°	61.6	2.3
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°	727.2	27.5
0°-40°	1179.7	44.5
0°-60°	2054.1	77.6
0°-90°	2648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	949	949	949	949	949	
5°	939	941	946	948	949	89
15°	893	898	906	913	914	252
25°	808	815	833	844	849	372
35°	692	700	724	746	754	432
45°	556	568	598	629	638	429
55°	414	428	463	495	509	371
65°	272	288	331	363	378	270
75°	138	159	204	238	251	148
85°	33	46	59	59	59	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	948.9	948.9	948.9	948.9	948.9
2.5°	942.7	945.2	950.1	951.3	951.3
5°	939.0	941.4	946.4	947.6	948.9
7.5°	932.8	934.0	940.2	942.7	943.9
10°	922.9	925.4	931.6	935.3	936.5
12.5°	909.3	913.0	920.4	925.4	926.6
15°	893.3	898.2	905.6	913.0	914.3
17.5°	876.0	880.9	890.8	899.4	901.9
20°	855.0	861.1	872.3	882.1	885.9
22.5°	834.0	838.9	852.5	864.8	868.6
25°	808.0	815.4	832.7	843.8	848.8
27.5°	780.8	789.5	806.8	821.6	826.5
30°	752.4	761.1	779.6	798.1	804.3
32.5°	722.8	732.6	754.9	773.4	779.6
35°	691.9	700.5	724.0	746.2	753.7
37.5°	659.8	667.2	694.3	717.8	725.2
40°	625.2	635.0	663.5	690.6	698.1
42.5°	590.6	601.7	630.1	659.8	667.2
45°	556.0	568.3	598.0	628.9	637.5
47.5°	522.6	532.5	565.9	595.5	607.9
50°	486.8	496.7	528.8	562.2	574.5
52.5°	449.7	463.3	497.9	530.0	544.9
55°	413.9	427.5	463.3	495.4	509.0
57.5°	380.5	391.7	428.7	462.1	475.7
60°	344.7	354.6	394.1	430.0	442.3
62.5°	306.4	321.2	362.0	395.4	410.2
65°	271.8	287.9	331.1	363.2	378.1
67.5°	239.7	254.5	296.5	331.1	347.2
70°	202.6	222.4	265.6	300.2	315.1
72.5°	173.0	190.3	234.7	269.3	285.4
75°	138.4	159.4	203.9	238.5	250.8
77.5°	110.0	131.0	173.0	200.2	206.3
80°	80.3	101.3	140.8	154.4	158.1
82.5°	54.4	74.1	101.3	105.0	106.3
85°	33.4	45.7	59.3	59.3	59.3
87.5°	16.1	18.5	21.0	19.8	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)