

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: P312657

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-RDP-CP187-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: P312657
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-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" 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: 1688.0 lumens
Efficiency: N/A
Efficacy: 73.7 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

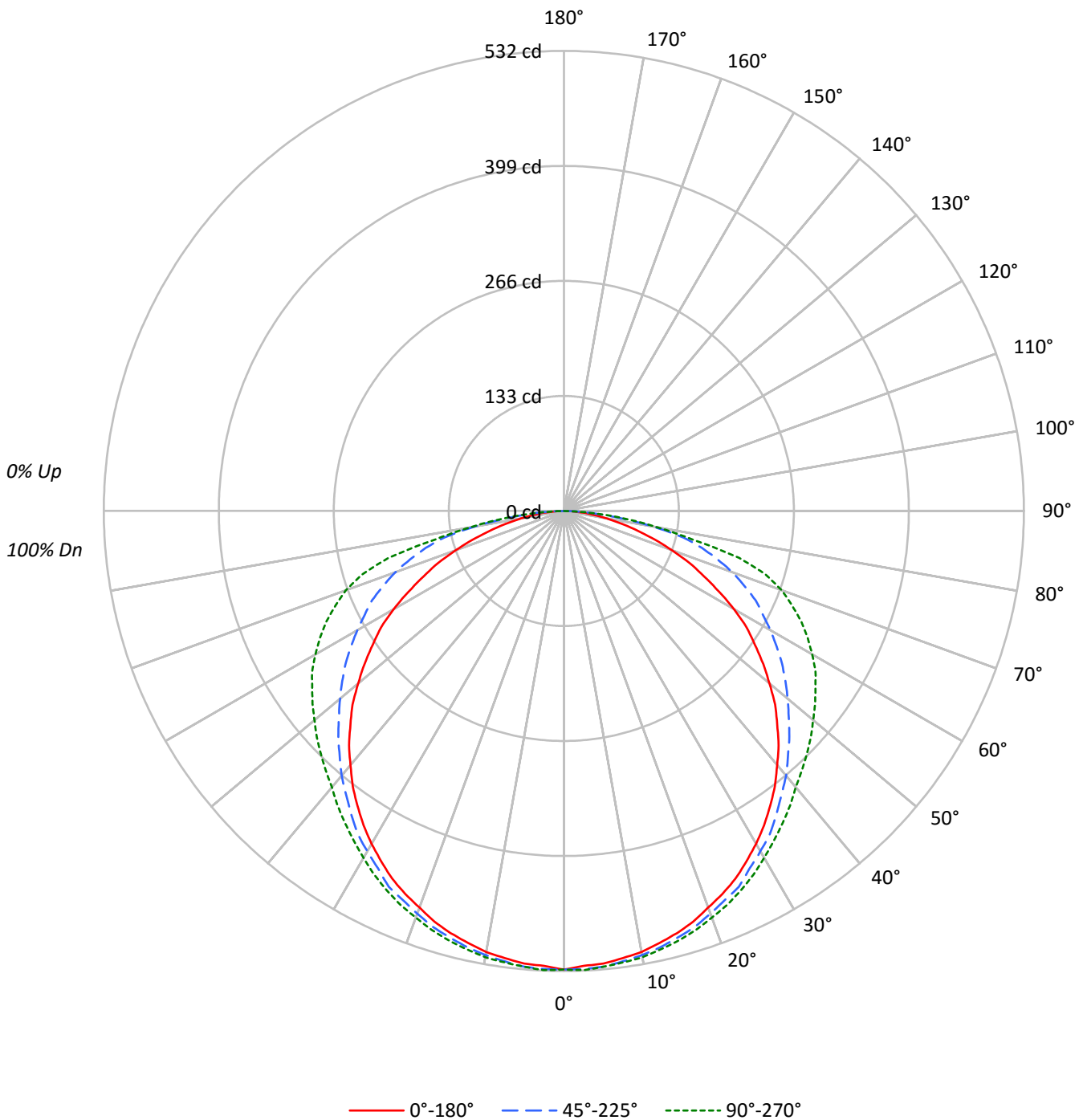
Input Watts (W): 22.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1427	1427	1427
5°	1419	1429	1429
10°	1415	1425	1432
15°	1408	1422	1432
20°	1397	1419	1433
25°	1394	1423	1438
30°	1381	1412	1439
35°	1367	1407	1448
40°	1348	1404	1466
45°	1328	1404	1512
50°	1299	1414	1575
55°	1264	1445	1666
60°	1223	1484	1784
65°	1138	1557	1929
70°	1046	1632	2110
75°	917	1718	2182
80°	789	1635	1712
85°	692	1189	1303



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.2	3.0
10°-20°	144.0	8.5
20°-30°	219.7	13.0
30°-40°	268.3	15.9
40°-50°	286.8	17.0
50°-60°	276.9	16.4
60°-70°	238.3	14.1
70°-80°	161.3	9.6
80°-90°	42.5	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°	413.9	24.5
0°-40°	682.2	40.4
0°-60°	1245.9	73.8
0°-90°	1688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1688.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	530	530	530	530	530	
5°	525	526	529	529	529	50
15°	505	507	510	513	514	143
25°	469	472	479	482	484	216
35°	416	420	428	437	441	260
45°	349	355	369	387	397	269
55°	270	278	308	339	355	241
65°	179	196	245	283	303	178
75°	88	117	165	199	210	95
85°	22	31	38	40	42	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	530.2	530.2	530.2	530.2	530.2
2.5°	526.5	527.7	530.2	530.2	531.5
5°	525.3	526.5	529.0	529.0	529.0
7.5°	521.5	522.8	525.3	526.5	526.5
10°	517.8	519.1	521.5	522.8	524.0
12.5°	511.6	512.8	516.6	519.1	519.1
15°	505.4	506.6	510.4	512.8	514.1
17.5°	497.9	500.4	504.2	506.6	507.9
20°	488.0	490.5	495.5	499.2	500.4
22.5°	479.3	481.8	486.8	490.5	493.0
25°	469.4	471.9	479.3	481.8	484.3
27.5°	457.0	459.5	465.7	470.6	474.4
30°	444.5	447.0	454.5	460.7	463.2
32.5°	430.9	434.6	443.3	448.3	452.0
35°	416.0	419.7	428.4	437.1	440.8
37.5°	401.1	404.8	413.5	424.7	429.6
40°	383.7	388.7	399.8	414.7	417.2
42.5°	367.6	373.8	383.7	401.1	407.3
45°	348.9	355.1	368.8	387.4	397.4
47.5°	331.5	337.8	352.7	375.0	387.4
50°	310.4	319.1	337.8	363.8	376.3
52.5°	290.6	298.0	322.9	351.4	366.3
55°	269.5	278.2	308.0	339.0	355.1
57.5°	250.8	258.3	291.8	326.6	345.2
60°	227.2	237.2	275.7	312.9	331.5
62.5°	202.4	217.3	259.5	298.0	317.9
65°	178.8	196.2	244.6	283.1	303.0
67.5°	157.7	176.3	226.0	267.0	285.6
70°	132.9	156.5	207.4	247.1	268.2
72.5°	110.5	136.6	186.3	226.0	244.6
75°	88.2	116.7	165.2	198.7	209.9
77.5°	68.3	95.6	141.6	151.5	152.7
80°	50.9	75.7	105.5	106.8	110.5
82.5°	34.8	53.4	68.3	74.5	75.7
85°	22.4	31.0	38.5	39.7	42.2
87.5°	9.9	11.2	13.7	12.4	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)