

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: P311857

Luminaire Tested: **14FCZ2-20-UNV-L83050-HRP-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: P311857
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-18)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 14FCZ2-20-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 1'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 1497.0 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.29 / 1.39
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

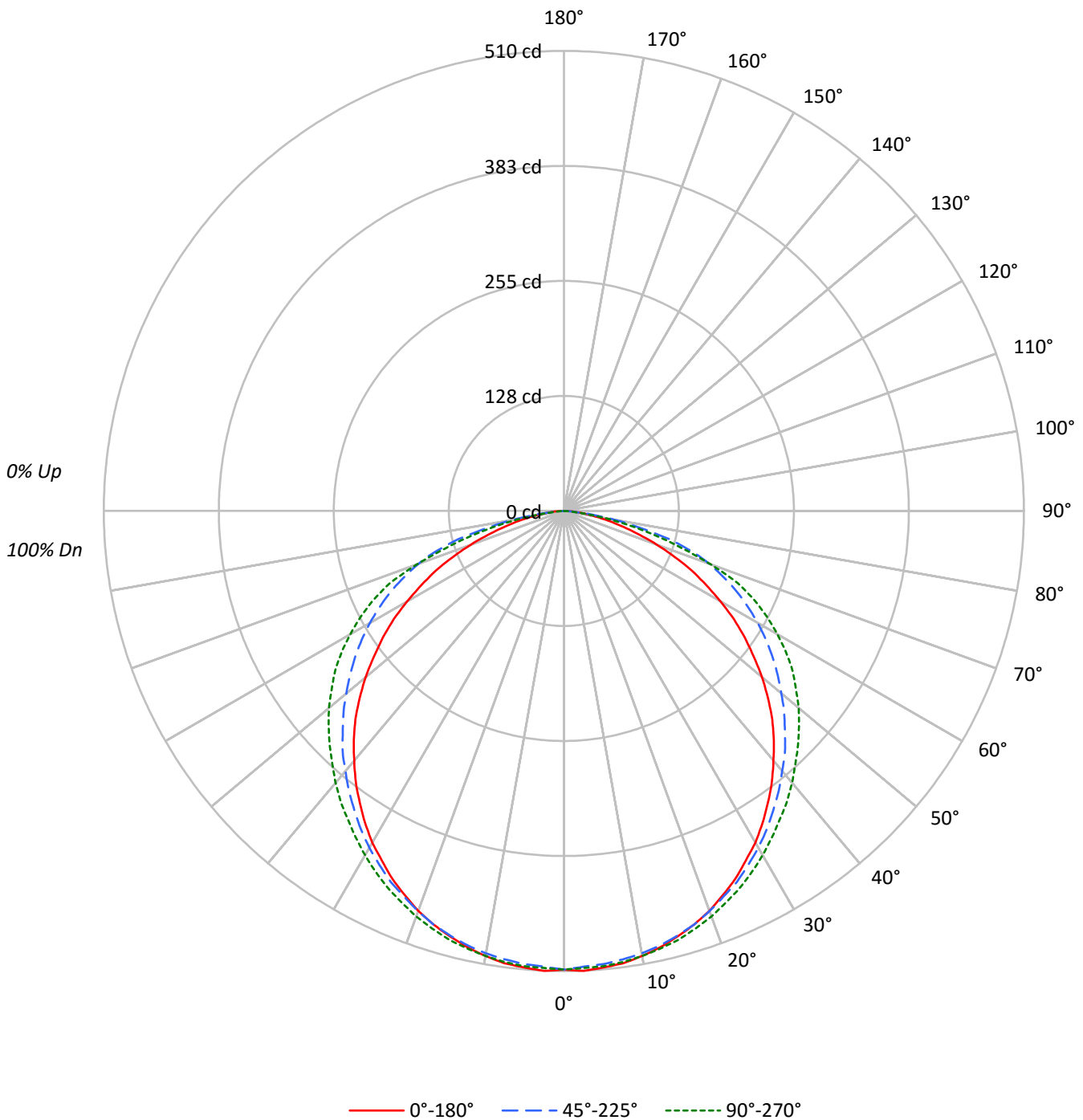
Input Watts (W): 16.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 14FC22-20-UNV-L83050-HRP-CP187-W2A-U-4000K

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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	69	56	47	40	68	55	46	40	53	45	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1368	1368	1368
5°	1372	1362	1368
10°	1369	1361	1369
15°	1360	1357	1370
20°	1351	1352	1370
25°	1336	1347	1370
30°	1319	1340	1369
35°	1296	1330	1372
40°	1270	1323	1382
45°	1243	1319	1397
50°	1200	1318	1423
55°	1148	1325	1453
60°	1079	1335	1472
65°	995	1349	1480
70°	867	1352	1363
75°	714	1258	1101
80°	561	905	736
85°	435	349	173



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	3.2
10°-20°	138.1	9.2
20°-30°	209.7	14.0
30°-40°	254.1	17.0
40°-50°	267.8	17.9
50°-60°	250.0	16.7
60°-70°	199.8	13.3
70°-80°	109.9	7.3
80°-90°	19.4	1.3
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°	396.0	26.5
0°-40°	650.1	43.4
0°-60°	1167.9	78.0
0°-90°	1497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1497.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	508	506	504	507	506	48
15°	488	488	487	492	492	138
25°	450	451	454	460	461	207
35°	394	398	405	415	418	247
45°	327	333	346	362	367	251
55°	245	257	282	302	310	219
65°	156	176	212	229	232	154
75°	69	98	121	109	106	74
85°	14	18	11	7	6	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	508.4	508.4	508.4	508.4	508.4
2.5°	510.3	508.9	505.6	508.4	507.0
5°	507.9	506.5	504.2	507.4	506.5
7.5°	505.6	503.7	501.3	505.1	504.2
10°	500.9	499.4	498.0	501.3	500.9
12.5°	495.2	494.7	493.3	497.1	496.6
15°	488.1	488.1	487.2	491.9	491.9
17.5°	480.6	480.1	480.6	485.8	485.3
20°	471.7	471.7	472.1	478.3	478.3
22.5°	460.8	461.3	462.7	470.3	469.8
25°	450.0	451.0	453.8	460.4	461.3
27.5°	436.8	439.2	442.5	450.5	451.4
30°	424.6	426.0	431.2	438.7	440.6
32.5°	410.0	412.8	418.5	427.0	429.3
35°	394.5	398.2	404.8	415.2	417.5
37.5°	378.9	382.2	391.2	402.0	406.2
40°	361.5	367.2	376.6	388.8	393.5
42.5°	344.6	350.2	362.9	375.6	379.9
45°	326.7	332.8	346.5	362.0	367.2
47.5°	306.9	314.0	331.4	347.9	353.5
50°	286.7	295.6	314.9	333.3	339.9
52.5°	265.5	276.8	298.9	318.2	324.3
55°	244.8	257.0	282.4	302.2	309.7
57.5°	223.6	236.8	265.5	288.1	292.3
60°	200.5	216.5	248.1	267.8	273.5
62.5°	177.9	196.3	230.2	249.0	253.7
65°	156.3	176.1	211.8	229.2	232.5
67.5°	132.7	156.3	191.6	207.6	208.5
70°	110.2	137.5	171.8	179.3	173.2
72.5°	88.0	117.2	148.8	142.6	137.5
75°	68.7	98.4	121.0	108.7	105.9
77.5°	50.8	80.5	86.6	80.0	74.8
80°	36.2	63.5	58.4	49.9	47.5
82.5°	24.9	40.0	32.0	24.9	21.7
85°	14.1	17.9	11.3	7.1	5.6
87.5°	6.1	4.2	2.4	1.9	1.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)