

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: P313281

Luminaire Tested: **24FCZ2-50-UNV-L83050-HRP-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: P313281
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 3324.0 lumens
Efficiency: N/A
Efficacy: 77.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

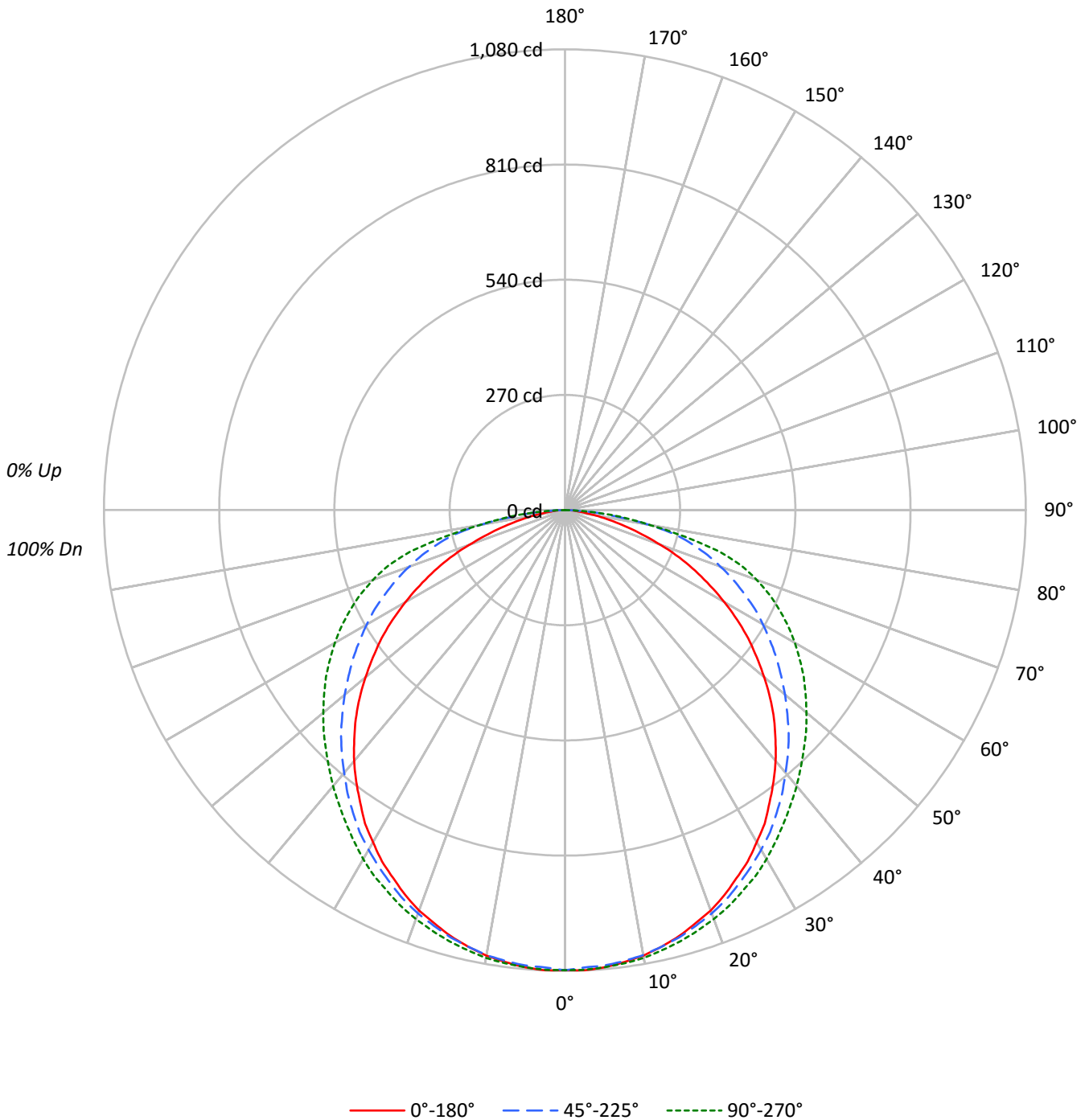
Input Watts (W): 42.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1451	1451	1451
5°	1453	1447	1453
10°	1449	1447	1456
15°	1440	1444	1458
20°	1431	1441	1460
25°	1413	1434	1463
30°	1397	1429	1468
35°	1374	1422	1470
40°	1349	1413	1484
45°	1319	1411	1507
50°	1276	1410	1547
55°	1231	1420	1603
60°	1161	1442	1674
65°	1072	1475	1768
70°	936	1528	1883
75°	760	1606	1946
80°	561	1574	1574
85°	429	1159	1311



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.2	3.1
10°-20°	293.4	8.8
20°-30°	446.6	13.4
30°-40°	542.3	16.3
40°-50°	573.0	17.2
50°-60°	540.6	16.3
60°-70°	449.5	13.5
70°-80°	295.8	8.9
80°-90°	80.6	2.4
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°	842.2	25.3
0°-40°	1384.5	41.7
0°-60°	2498.1	75.2
0°-90°	3324.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3324.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1078	1078	1078	1078	1078	
5°	1076	1076	1072	1076	1076	102
15°	1034	1035	1037	1046	1046	292
25°	952	957	966	982	985	439
35°	836	846	866	888	895	524
45°	693	707	742	778	792	534
55°	525	547	605	662	683	467
65°	337	376	463	532	555	333
75°	146	213	309	366	374	157
85°	28	61	75	84	85	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1078.5	1078.5	1078.5	1078.5	1078.5
2.5°	1079.9	1078.5	1072.9	1078.5	1078.5
5°	1075.7	1075.7	1071.5	1075.7	1075.7
7.5°	1068.7	1068.7	1066.0	1071.5	1071.5
10°	1060.4	1060.4	1059.0	1066.0	1066.0
12.5°	1047.9	1049.3	1047.9	1056.2	1056.2
15°	1033.9	1035.3	1036.7	1046.5	1046.5
17.5°	1015.9	1018.6	1021.4	1032.6	1033.9
20°	999.2	1000.5	1006.1	1018.6	1020.0
22.5°	976.9	981.1	988.0	1000.5	1004.7
25°	951.8	957.4	965.8	982.5	985.2
27.5°	928.2	932.4	943.5	961.6	967.1
30°	899.0	905.9	919.8	937.9	944.9
32.5°	871.1	878.1	894.8	914.3	919.8
35°	836.3	846.1	865.6	887.8	894.8
37.5°	802.9	812.7	836.3	861.4	869.7
40°	768.2	779.3	804.3	833.6	844.7
42.5°	730.6	745.9	773.7	805.7	818.2
45°	693.0	706.9	741.7	777.9	791.8
47.5°	652.7	669.3	706.9	750.1	766.8
50°	609.5	630.4	673.5	720.8	738.9
52.5°	566.4	590.0	638.7	691.6	711.1
55°	524.6	546.9	605.3	662.4	683.3
57.5°	478.7	506.5	570.5	631.8	652.7
60°	431.4	462.0	535.8	599.8	622.0
62.5°	384.1	418.9	502.4	566.4	590.0
65°	336.8	375.7	463.4	531.6	555.2
67.5°	290.8	334.0	427.2	495.4	519.1
70°	238.0	292.2	388.3	455.0	478.7
72.5°	189.3	251.9	350.7	413.3	434.2
75°	146.1	212.9	308.9	366.0	374.3
77.5°	107.2	173.9	265.8	285.3	286.7
80°	72.4	139.2	203.2	200.4	203.2
82.5°	47.3	104.4	128.0	143.3	144.7
85°	27.8	61.2	75.1	83.5	84.9
87.5°	13.9	20.9	26.4	27.8	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)