

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: P309574

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P309574  
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-L82765-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: 3170.0 lumens  
Efficiency: N/A  
Efficacy: 73.9 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

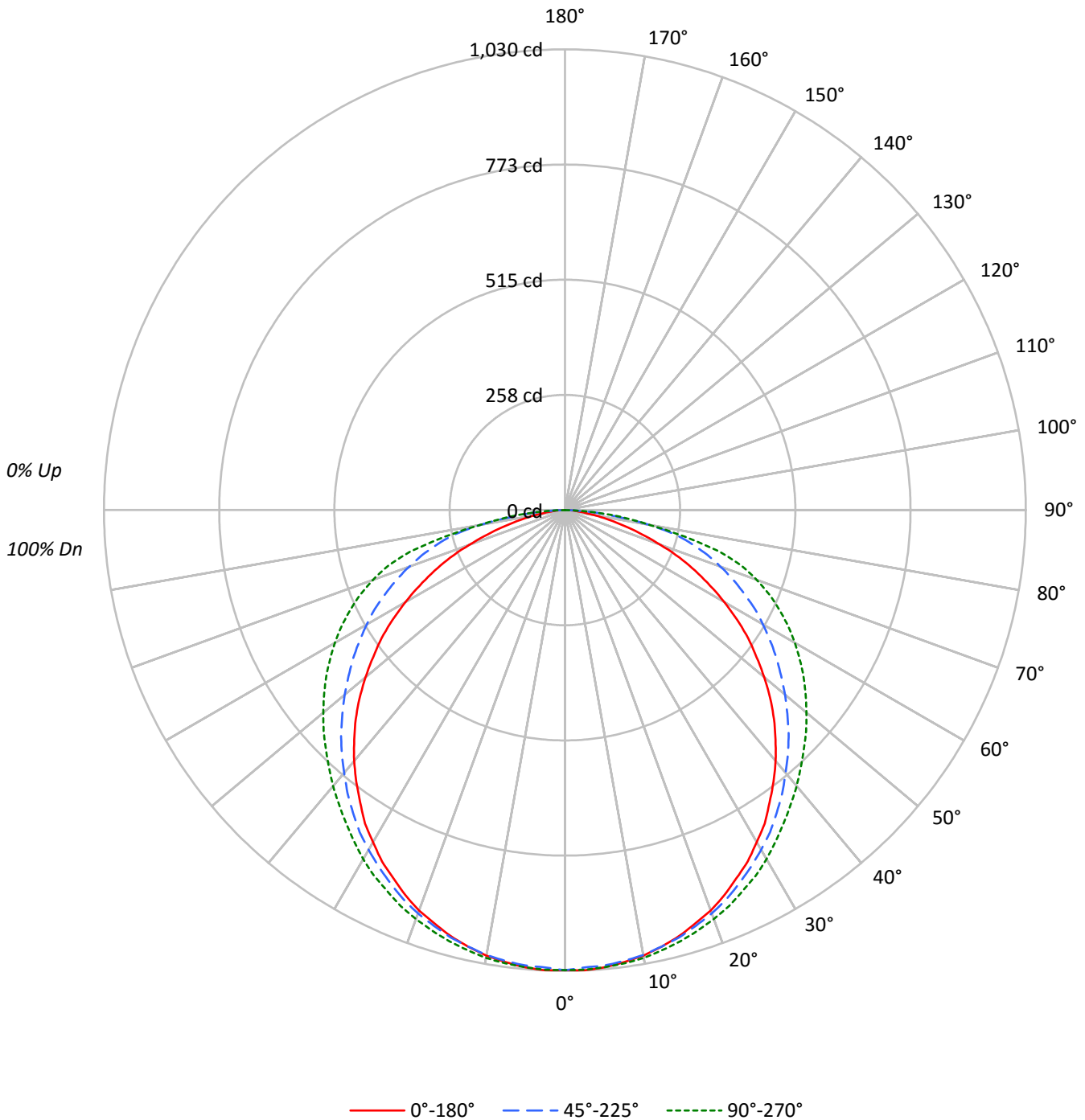
Input Watts (W): 42.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1384	1384	1384
5°	1386	1380	1386
10°	1382	1380	1389
15°	1373	1377	1390
20°	1364	1374	1393
25°	1348	1367	1395
30°	1332	1363	1400
35°	1310	1356	1402
40°	1287	1347	1415
45°	1258	1346	1437
50°	1217	1344	1475
55°	1174	1354	1529
60°	1107	1375	1596
65°	1023	1407	1686
70°	893	1457	1796
75°	724	1531	1856
80°	535	1502	1502
85°	409	1107	1250



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.4	3.1
10°-20°	279.8	8.8
20°-30°	425.9	13.4
30°-40°	517.2	16.3
40°-50°	546.4	17.2
50°-60°	515.6	16.3
60°-70°	428.7	13.5
70°-80°	282.0	8.9
80°-90°	76.9	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°	803.2	25.3
0°-40°	1320.4	41.7
0°-60°	2382.4	75.2
0°-90°	3170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3170.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1028	1028	1028	1028	1028	
5°	1026	1026	1022	1026	1026	97
15°	986	987	989	998	998	278
25°	908	913	921	937	940	419
35°	798	807	826	847	853	499
45°	661	674	707	742	755	509
55°	500	522	577	632	652	446
65°	321	358	442	507	530	317
75°	139	203	295	349	357	150
85°	26	58	72	80	81	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1028.5	1028.5	1028.5	1028.5	1028.5
2.5°	1029.8	1028.5	1023.2	1028.5	1028.5
5°	1025.9	1025.9	1021.9	1025.9	1025.9
7.5°	1019.2	1019.2	1016.6	1021.9	1021.9
10°	1011.3	1011.3	1009.9	1016.6	1016.6
12.5°	999.3	1000.6	999.3	1007.3	1007.3
15°	986.0	987.4	988.7	998.0	998.0
17.5°	968.8	971.4	974.1	984.7	986.0
20°	952.9	954.2	959.5	971.4	972.8
22.5°	931.6	935.6	942.2	954.2	958.2
25°	907.7	913.1	921.0	936.9	939.6
27.5°	885.2	889.2	899.8	917.0	922.3
30°	857.3	863.9	877.2	894.5	901.1
32.5°	830.8	837.4	853.3	871.9	877.2
35°	797.6	806.9	825.5	846.7	853.3
37.5°	765.7	775.0	797.6	821.5	829.4
40°	732.6	743.2	767.1	794.9	805.6
42.5°	696.7	711.3	737.9	768.4	780.3
45°	660.9	674.2	707.3	741.9	755.1
47.5°	622.4	638.3	674.2	715.3	731.2
50°	581.3	601.2	642.3	687.4	704.7
52.5°	540.1	562.7	609.1	659.6	678.2
55°	500.3	521.6	577.3	631.7	651.6
57.5°	456.5	483.1	544.1	602.5	622.4
60°	411.4	440.6	510.9	572.0	593.2
62.5°	366.3	399.5	479.1	540.1	562.7
65°	321.2	358.3	441.9	507.0	529.5
67.5°	277.4	318.5	407.4	472.5	495.0
70°	226.9	278.7	370.3	434.0	456.5
72.5°	180.5	240.2	334.4	394.2	414.1
75°	139.3	203.0	294.6	349.0	357.0
77.5°	102.2	165.9	253.5	272.1	273.4
80°	69.0	132.7	193.8	191.1	193.8
82.5°	45.1	99.5	122.1	136.7	138.0
85°	26.5	58.4	71.7	79.6	81.0
87.5°	13.3	19.9	25.2	26.5	29.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)