

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: P310342

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-5000K**

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: P310342
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 3574.0 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

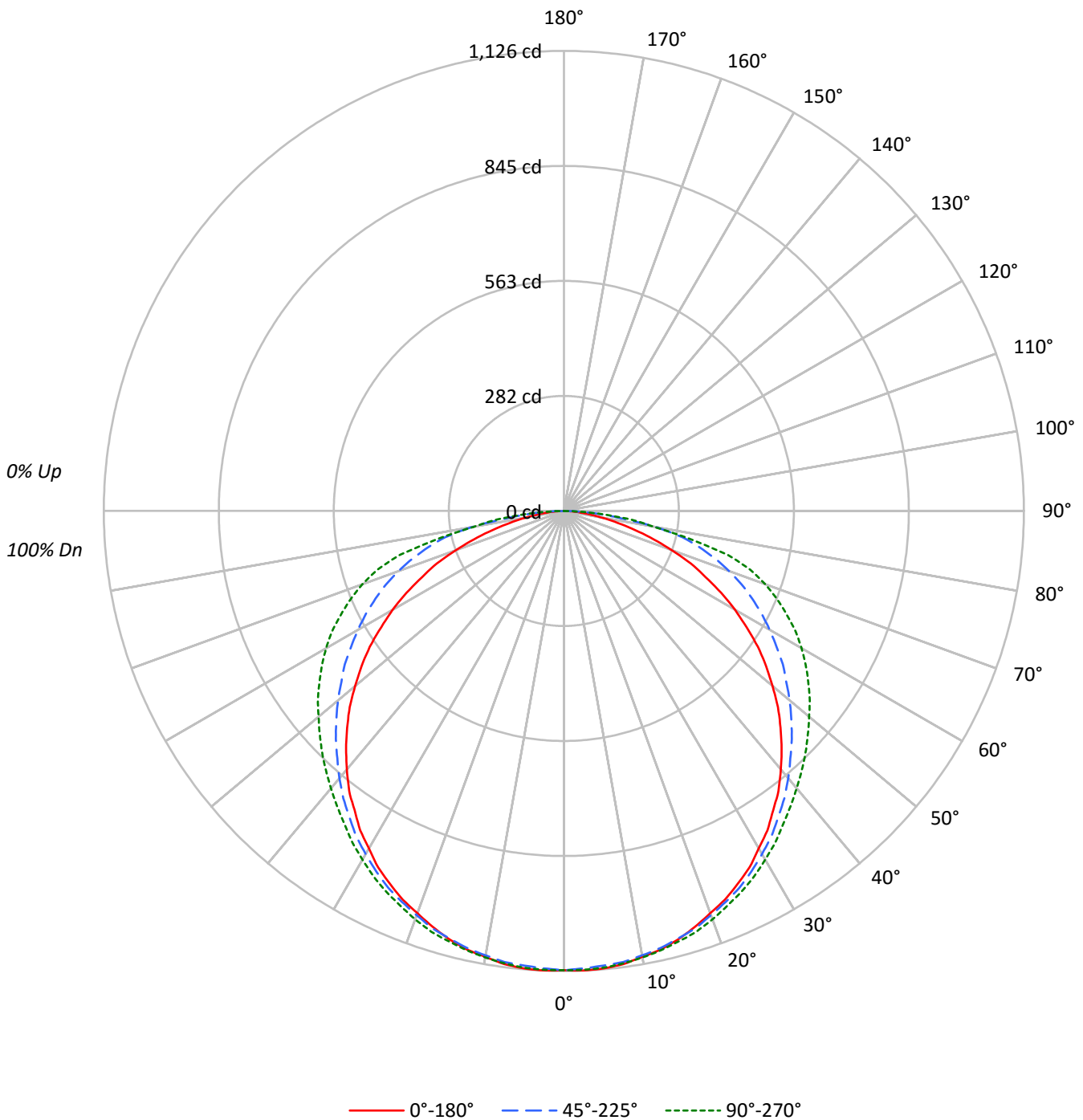
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	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°	1512	1512	1512
5°	1518	1508	1516
10°	1514	1509	1516
15°	1511	1509	1519
20°	1500	1508	1523
25°	1495	1511	1526
30°	1482	1507	1531
35°	1468	1502	1537
40°	1451	1501	1557
45°	1427	1501	1592
50°	1395	1510	1640
55°	1360	1534	1713
60°	1302	1565	1808
65°	1219	1620	1919
70°	1109	1695	2064
75°	940	1788	2156
80°	742	1799	1744
85°	548	1368	1533



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	3.0
10°-20°	306.8	8.6
20°-30°	469.2	13.1
30°-40°	573.6	16.0
40°-50°	611.4	17.1
50°-60°	584.5	16.4
60°-70°	495.2	13.9
70°-80°	332.8	9.3
80°-90°	93.9	2.6
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°	882.7	24.7
0°-40°	1456.3	40.7
0°-60°	2652.2	74.2
0°-90°	3574.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3574.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1124	1124	1124	1124	1124	
5°	1124	1122	1117	1122	1122	107
15°	1085	1085	1083	1092	1090	306
25°	1007	1010	1018	1026	1028	464
35°	894	901	915	932	936	560
45°	750	762	789	823	837	578
55°	580	601	654	706	730	516
65°	383	422	509	576	603	380
75°	181	246	344	402	415	194
85°	36	73	89	96	99	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1123.9	1123.9	1123.9	1123.9	1123.9
2.5°	1125.7	1125.7	1120.4	1123.9	1123.9
5°	1123.9	1122.1	1116.8	1122.1	1122.1
7.5°	1118.6	1116.8	1113.3	1118.6	1116.8
10°	1108.0	1108.0	1104.4	1109.7	1109.7
12.5°	1099.1	1097.3	1095.6	1102.6	1100.9
15°	1084.9	1084.9	1083.1	1092.0	1090.2
17.5°	1067.2	1069.0	1070.7	1077.8	1079.6
20°	1047.7	1051.2	1053.0	1063.6	1063.6
22.5°	1030.0	1031.7	1035.3	1045.9	1045.9
25°	1006.9	1010.5	1017.6	1026.4	1028.2
27.5°	983.9	985.6	994.5	1006.9	1008.7
30°	953.7	959.1	969.7	983.9	985.6
32.5°	927.1	932.5	944.9	959.1	962.6
35°	893.5	900.6	914.7	932.5	936.0
37.5°	863.3	868.6	886.4	905.9	911.2
40°	826.1	836.7	854.5	877.5	886.4
42.5°	788.9	799.5	820.8	850.9	861.6
45°	749.9	762.3	788.9	822.6	836.7
47.5°	710.9	725.1	755.2	794.2	810.1
50°	666.6	684.3	721.5	765.8	783.6
52.5°	624.0	645.3	686.1	735.7	758.7
55°	579.7	601.0	654.1	705.6	730.4
57.5°	530.1	558.4	616.9	675.4	702.0
60°	484.0	510.6	581.5	645.3	671.9
62.5°	434.3	469.8	546.0	613.4	640.0
65°	382.9	421.9	508.8	576.1	602.7
67.5°	336.8	379.4	471.6	538.9	565.5
70°	281.9	335.0	430.8	498.1	524.7
72.5°	230.5	289.0	388.2	453.8	478.6
75°	180.8	246.4	343.9	402.4	414.8
77.5°	134.7	203.9	297.8	322.6	313.8
80°	95.7	163.1	232.2	219.8	225.1
82.5°	62.0	124.1	143.6	163.1	168.4
85°	35.5	72.7	88.6	95.7	99.3
87.5°	16.0	26.6	35.5	35.5	33.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)