

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: P310832

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP187-W2A-U-2700K**

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: P310832
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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: 3558.0 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

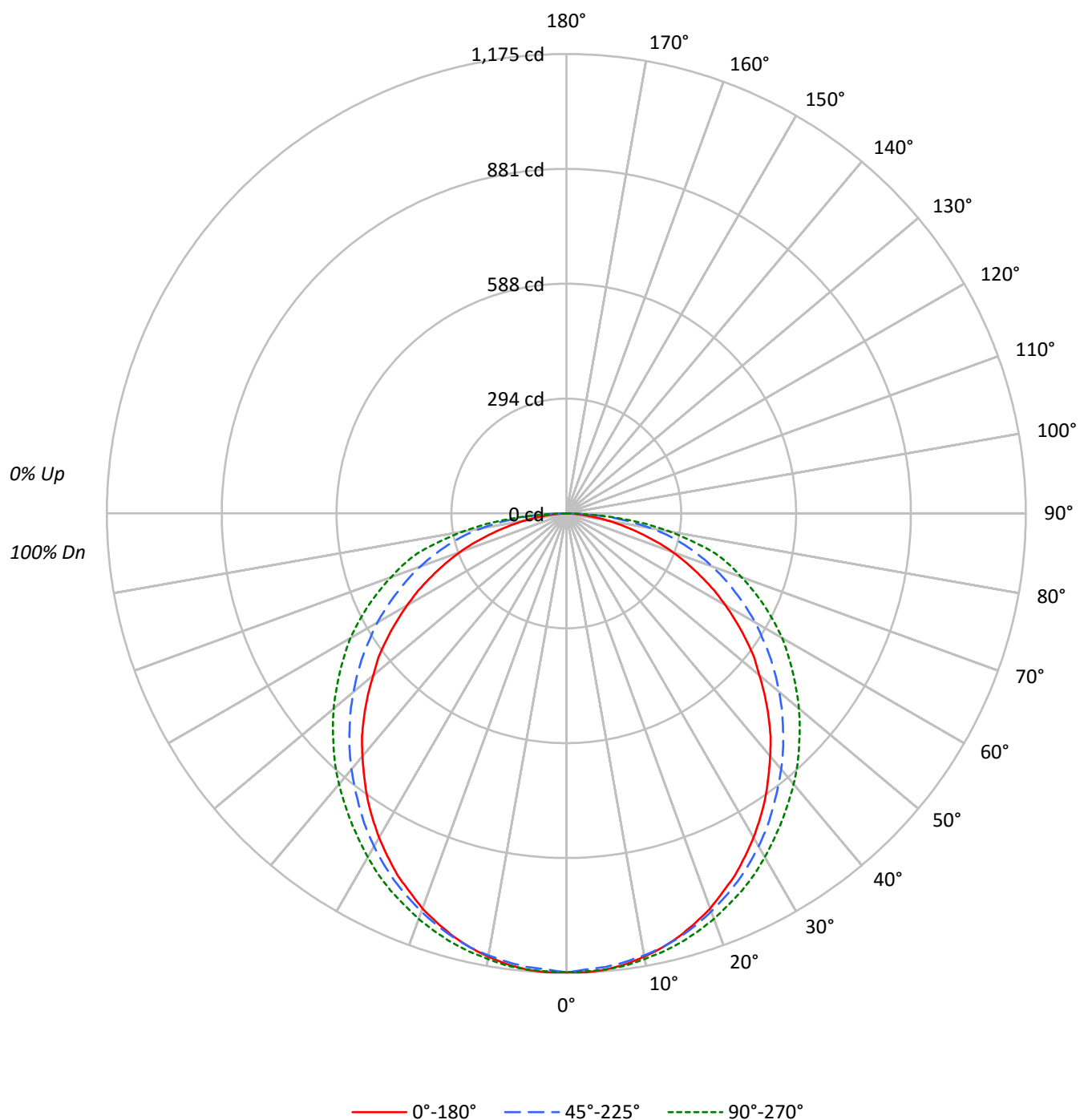
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1579	1579	1579
5°	1582	1572	1582
10°	1573	1568	1581
15°	1559	1562	1582
20°	1540	1552	1580
25°	1516	1540	1579
30°	1487	1528	1577
35°	1458	1512	1578
40°	1424	1501	1588
45°	1390	1491	1602
50°	1349	1487	1626
55°	1315	1490	1659
60°	1264	1503	1715
65°	1206	1518	1778
70°	1142	1565	1876
75°	1019	1632	2050
80°	869	1729	2094
85°	619	1714	2005



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.0	3.1
10°-20°	317.5	8.9
20°-30°	479.6	13.5
30°-40°	578.0	16.2
40°-50°	606.8	17.1
50°-60°	567.7	16.0
60°-70°	468.8	13.2
70°-80°	319.5	9.0
80°-90°	109.0	3.1
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°	908.2	25.5
0°-40°	1486.2	41.8
0°-60°	2660.7	74.8
0°-90°	3558.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3558.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1173	1173	1173	1173	1173	
5°	1171	1170	1164	1171	1171	111
15°	1119	1120	1122	1133	1136	315
25°	1021	1026	1038	1058	1064	470
35°	888	897	921	952	961	555
45°	731	746	784	826	842	564
55°	561	583	635	687	707	500
65°	379	411	477	537	558	376
75°	196	241	314	373	394	209
85°	40	79	111	125	130	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1173.4	1173.4	1173.4	1173.4	1173.4
2.5°	1174.6	1173.4	1167.5	1173.4	1172.2
5°	1171.0	1169.9	1164.0	1171.0	1171.0
7.5°	1162.8	1162.8	1156.9	1165.1	1166.3
10°	1151.0	1151.0	1147.4	1156.9	1156.9
12.5°	1136.8	1136.8	1136.8	1146.2	1147.4
15°	1119.1	1120.3	1121.5	1133.3	1135.6
17.5°	1097.8	1100.2	1103.7	1117.9	1120.3
20°	1075.4	1077.8	1083.7	1100.2	1103.7
22.5°	1047.1	1053.0	1061.3	1080.1	1083.7
25°	1021.1	1025.8	1037.6	1057.7	1063.6
27.5°	989.2	996.3	1011.7	1032.9	1041.2
30°	957.4	964.5	983.3	1008.1	1015.2
32.5°	923.1	933.8	953.8	979.8	988.1
35°	887.7	897.2	920.8	951.5	960.9
37.5°	848.8	861.8	887.7	920.8	932.6
40°	811.0	825.2	854.7	890.1	904.2
42.5°	773.2	787.4	820.4	860.6	874.7
45°	730.7	746.1	783.8	826.3	841.7
47.5°	688.2	707.1	748.4	793.3	809.8
50°	644.5	665.8	710.6	757.9	776.8
52.5°	605.6	625.7	672.9	723.6	741.3
55°	560.7	583.2	635.1	687.0	707.1
57.5°	514.7	539.5	595.0	651.6	671.7
60°	469.8	497.0	558.4	615.0	637.5
62.5°	426.2	453.3	517.1	576.1	598.5
65°	378.9	410.8	476.9	537.1	558.4
67.5°	334.1	368.3	438.0	497.0	518.2
70°	290.4	323.5	397.8	455.7	476.9
72.5°	243.2	281.0	355.3	415.5	438.0
75°	196.0	240.8	314.0	373.0	394.3
77.5°	152.3	198.3	271.5	319.9	330.5
80°	112.1	159.4	223.1	257.3	270.3
82.5°	72.0	119.2	170.0	194.8	205.4
85°	40.1	79.1	111.0	125.1	129.9
87.5°	16.5	34.2	44.9	50.8	50.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)