

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: P311499

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP125-W2A-U-3000K**

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: P311499
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 3000K 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: 4016.0 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

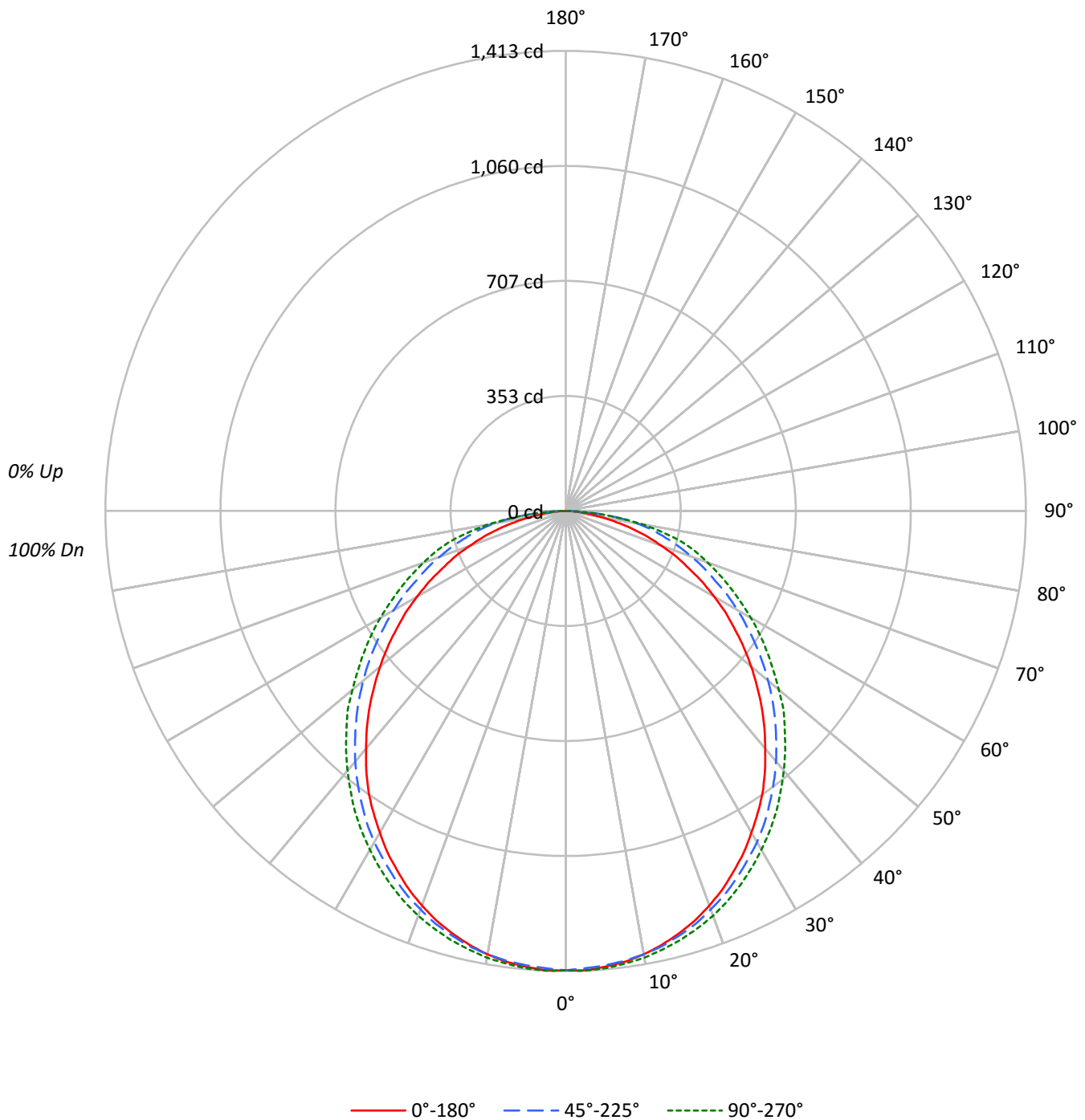
Input Watts (W): 37.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1898	1898	1898
5°	1897	1892	1904
10°	1889	1889	1903
15°	1871	1880	1899
20°	1847	1865	1894
25°	1812	1846	1882
30°	1772	1825	1867
35°	1733	1796	1852
40°	1674	1766	1831
45°	1619	1731	1811
50°	1557	1698	1789
55°	1487	1667	1772
60°	1418	1641	1768
65°	1328	1612	1779
70°	1229	1621	1827
75°	1101	1651	1930
80°	890	1750	1888
85°	670	1536	1496



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	3.3
10°-20°	381.6	9.5
20°-30°	573.7	14.3
30°-40°	683.4	17.0
40°-50°	699.4	17.4
50°-60°	629.7	15.7
60°-70°	494.5	12.3
70°-80°	320.9	8.0
80°-90°	99.3	2.5
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°	1088.9	27.1
0°-40°	1772.3	44.1
0°-60°	3101.3	77.2
0°-90°	4016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1411	1411	1411	1411	1411	
5°	1404	1407	1401	1408	1410	133
15°	1343	1347	1350	1361	1364	379
25°	1221	1231	1244	1264	1268	562
35°	1055	1068	1093	1120	1128	658
45°	851	871	910	944	952	656
55°	634	662	710	748	755	568
65°	417	449	506	548	559	415
75°	212	253	318	361	371	224
85°	43	80	100	97	97	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1410.8	1410.8	1410.8	1410.8	1410.8
2.5°	1412.1	1412.1	1405.7	1412.1	1413.4
5°	1404.5	1407.0	1400.6	1408.3	1409.6
7.5°	1396.8	1396.8	1393.0	1400.6	1401.9
10°	1382.8	1384.1	1382.8	1391.7	1393.0
12.5°	1364.9	1367.5	1368.8	1377.7	1379.0
15°	1343.2	1347.1	1349.6	1361.1	1363.6
17.5°	1319.0	1322.8	1329.2	1342.0	1344.5
20°	1289.7	1294.8	1302.4	1319.0	1322.8
22.5°	1257.8	1262.9	1275.6	1290.9	1297.3
25°	1220.8	1231.0	1243.7	1264.1	1268.0
27.5°	1183.8	1192.7	1209.3	1231.0	1236.1
30°	1140.4	1154.4	1174.9	1196.5	1201.6
32.5°	1098.3	1112.3	1136.6	1159.5	1165.9
35°	1054.9	1067.7	1093.2	1120.0	1127.7
37.5°	1005.2	1021.8	1049.8	1076.6	1084.3
40°	952.9	973.3	1005.2	1033.3	1042.2
42.5°	903.1	924.8	956.7	987.3	997.5
45°	850.8	871.3	909.5	944.0	951.6
47.5°	797.3	820.2	861.1	895.5	908.2
50°	743.7	767.9	811.3	847.0	854.7
52.5°	690.1	715.6	761.6	799.8	803.6
55°	634.0	662.1	710.5	747.5	755.2
57.5°	583.0	607.2	659.5	697.8	706.7
60°	526.8	553.6	609.8	645.5	656.9
62.5°	473.3	501.3	560.0	595.7	605.9
65°	417.1	449.0	506.4	548.5	558.7
67.5°	368.7	399.3	460.5	501.3	511.5
70°	312.5	347.0	412.0	454.1	464.3
72.5°	264.1	299.8	364.8	405.7	421.0
75°	211.8	252.6	317.6	361.0	371.2
77.5°	160.7	207.9	274.3	307.4	307.4
80°	114.8	164.6	225.8	241.1	243.6
82.5°	75.3	123.7	167.1	165.8	165.8
85°	43.4	80.4	99.5	96.9	96.9
87.5°	16.6	33.2	35.7	35.7	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)