

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: P314350

Luminaire Tested: **24FCZ2-45-UNV-L83050-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: P314350
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-L83050-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: 4020.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

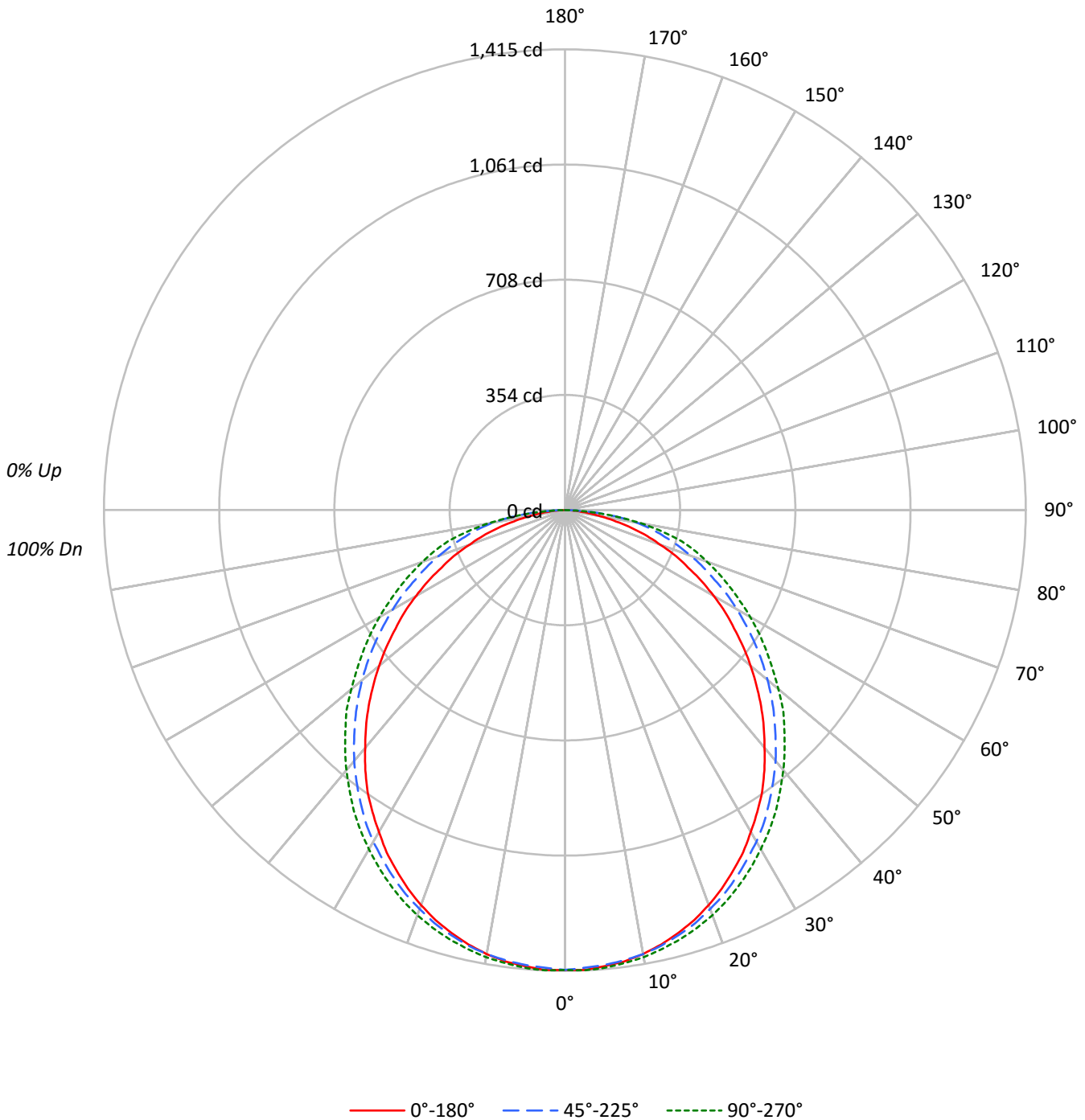
Input Watts (W): 37.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1900	1900	1900
5°	1899	1894	1906
10°	1891	1891	1905
15°	1873	1882	1901
20°	1848	1867	1896
25°	1814	1848	1884
30°	1773	1827	1869
35°	1735	1797	1854
40°	1675	1767	1832
45°	1621	1732	1813
50°	1558	1700	1791
55°	1489	1668	1773
60°	1419	1643	1770
65°	1329	1614	1781
70°	1231	1622	1828
75°	1102	1653	1932
80°	890	1751	1890
85°	670	1538	1497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.7	3.3
10°-20°	382.0	9.5
20°-30°	574.3	14.3
30°-40°	684.0	17.0
40°-50°	700.1	17.4
50°-60°	630.3	15.7
60°-70°	495.0	12.3
70°-80°	321.2	8.0
80°-90°	99.4	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°	1090.0	27.1
0°-40°	1774.0	44.1
0°-60°	3104.4	77.2
0°-90°	4020.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4020.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1412	1412	1412	1412	1412	
5°	1406	1408	1402	1410	1411	134
15°	1345	1348	1351	1362	1365	379
25°	1222	1232	1245	1265	1269	563
35°	1056	1069	1094	1121	1129	659
45°	852	872	910	945	953	657
55°	635	663	711	748	756	569
65°	418	450	507	549	559	416
75°	212	253	318	361	372	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°	1412.3	1412.3	1412.3	1412.3	1412.3
2.5°	1413.5	1413.5	1407.1	1413.5	1414.8
5°	1405.9	1408.4	1402.0	1409.7	1411.0
7.5°	1398.2	1398.2	1394.4	1402.0	1403.3
10°	1384.2	1385.4	1384.2	1393.1	1394.4
12.5°	1366.3	1368.8	1370.1	1379.1	1380.3
15°	1344.6	1348.4	1351.0	1362.5	1365.0
17.5°	1320.3	1324.1	1330.5	1343.3	1345.9
20°	1290.9	1296.1	1303.7	1320.3	1324.1
22.5°	1259.0	1264.1	1276.9	1292.2	1298.6
25°	1222.0	1232.2	1245.0	1265.4	1269.2
27.5°	1185.0	1193.9	1210.5	1232.2	1237.3
30°	1141.5	1155.6	1176.0	1197.7	1202.8
32.5°	1099.4	1113.5	1137.7	1160.7	1167.1
35°	1056.0	1068.8	1094.3	1121.1	1128.8
37.5°	1006.2	1022.8	1050.9	1077.7	1085.4
40°	953.8	974.3	1006.2	1034.3	1043.2
42.5°	904.0	925.8	957.7	988.3	998.5
45°	851.7	872.1	910.4	944.9	952.6
47.5°	798.1	821.0	861.9	896.4	909.2
50°	744.4	768.7	812.1	847.9	855.5
52.5°	690.8	716.3	762.3	800.6	804.4
55°	634.6	662.7	711.2	748.3	755.9
57.5°	583.5	607.8	660.2	698.5	707.4
60°	527.4	554.2	610.4	646.1	657.6
62.5°	473.7	501.8	560.6	596.3	606.5
65°	417.5	449.5	506.9	549.1	559.3
67.5°	369.0	399.7	461.0	501.8	512.0
70°	312.8	347.3	412.4	454.6	464.8
72.5°	264.3	300.1	365.2	406.1	421.4
75°	212.0	252.8	317.9	361.4	371.6
77.5°	160.9	208.1	274.5	307.7	307.7
80°	114.9	164.7	226.0	241.3	243.9
82.5°	75.3	123.9	167.3	166.0	166.0
85°	43.4	80.4	99.6	97.0	97.0
87.5°	16.6	33.2	35.8	35.8	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)