

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: P313978

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP125-W2A-U-4500K**

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: P313978
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-L83050-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET
Light Source: (168) 4500K 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

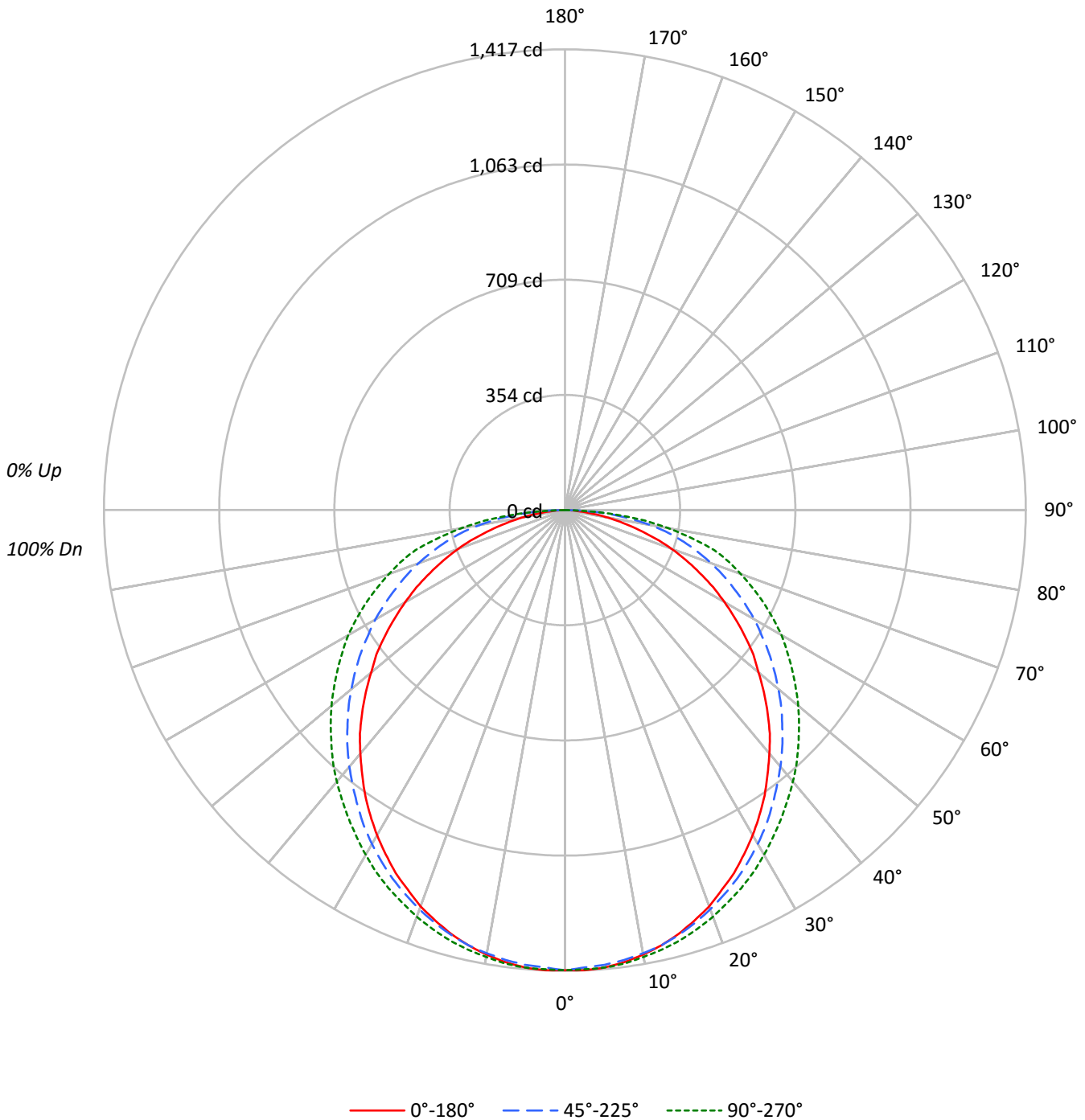
Lumens per Lamp: N/A
Luminaire Lumens: 4291.0 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 39.4
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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1904	1904	1904
5°	1907	1896	1907
10°	1896	1891	1906
15°	1880	1884	1908
20°	1857	1871	1906
25°	1828	1858	1904
30°	1794	1842	1902
35°	1759	1824	1904
40°	1718	1810	1915
45°	1677	1799	1932
50°	1627	1794	1961
55°	1586	1797	2000
60°	1525	1812	2069
65°	1455	1831	2144
70°	1378	1888	2263
75°	1228	1969	2472
80°	1048	2085	2526
85°	747	2066	2418



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	3.1
10°-20°	382.9	8.9
20°-30°	578.4	13.5
30°-40°	697.1	16.2
40°-50°	731.8	17.1
50°-60°	684.7	16.0
60°-70°	565.4	13.2
70°-80°	385.3	9.0
80°-90°	131.4	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°	1095.3	25.5
0°-40°	1792.4	41.8
0°-60°	3208.9	74.8
0°-90°	4291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1415	1415	1415	1415	1415	
5°	1412	1411	1404	1412	1412	134
15°	1350	1351	1352	1367	1370	380
25°	1232	1237	1251	1276	1283	567
35°	1071	1082	1110	1148	1159	669
45°	881	900	945	997	1015	680
55°	676	703	766	829	853	604
65°	457	495	575	648	673	453
75°	236	290	379	450	476	252
85°	48	95	134	151	157	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1415.1	1415.1	1415.1	1415.1	1415.1
2.5°	1416.6	1415.1	1408.0	1415.1	1413.7
5°	1412.3	1410.9	1403.7	1412.3	1412.3
7.5°	1402.3	1402.3	1395.2	1405.2	1406.6
10°	1388.1	1388.1	1383.8	1395.2	1395.2
12.5°	1371.0	1371.0	1371.0	1382.4	1383.8
15°	1349.6	1351.1	1352.5	1366.7	1369.6
17.5°	1324.0	1326.9	1331.1	1348.2	1351.1
20°	1297.0	1299.8	1306.9	1326.9	1331.1
22.5°	1262.8	1269.9	1279.9	1302.7	1306.9
25°	1231.5	1237.2	1251.4	1275.6	1282.7
27.5°	1193.0	1201.6	1220.1	1245.7	1255.7
30°	1154.6	1163.1	1185.9	1215.8	1224.4
32.5°	1113.3	1126.1	1150.3	1181.7	1191.6
35°	1070.6	1082.0	1110.5	1147.5	1158.9
37.5°	1023.6	1039.3	1070.6	1110.5	1124.7
40°	978.1	995.1	1030.7	1073.5	1090.5
42.5°	932.5	949.6	989.5	1037.9	1054.9
45°	881.3	899.8	945.3	996.6	1015.1
47.5°	830.0	852.8	902.6	956.7	976.6
50°	777.3	803.0	857.1	914.0	936.8
52.5°	730.3	754.5	811.5	872.7	894.1
55°	676.2	703.3	765.9	828.6	852.8
57.5°	620.7	650.6	717.5	785.9	810.1
60°	566.6	599.4	673.4	741.7	768.8
62.5°	513.9	546.7	623.6	694.8	721.8
65°	457.0	495.4	575.2	647.8	673.4
67.5°	402.9	444.2	528.2	599.4	625.0
70°	350.2	390.1	479.8	549.5	575.2
72.5°	293.3	338.8	428.5	501.1	528.2
75°	236.3	290.4	378.7	449.9	475.5
77.5°	183.7	239.2	327.4	385.8	398.6
80°	135.2	192.2	269.1	310.4	326.0
82.5°	86.8	143.8	205.0	234.9	247.7
85°	48.4	95.4	133.8	150.9	156.6
87.5°	19.9	41.3	54.1	61.2	61.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)