

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: P314340

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CA08-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: P314340
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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

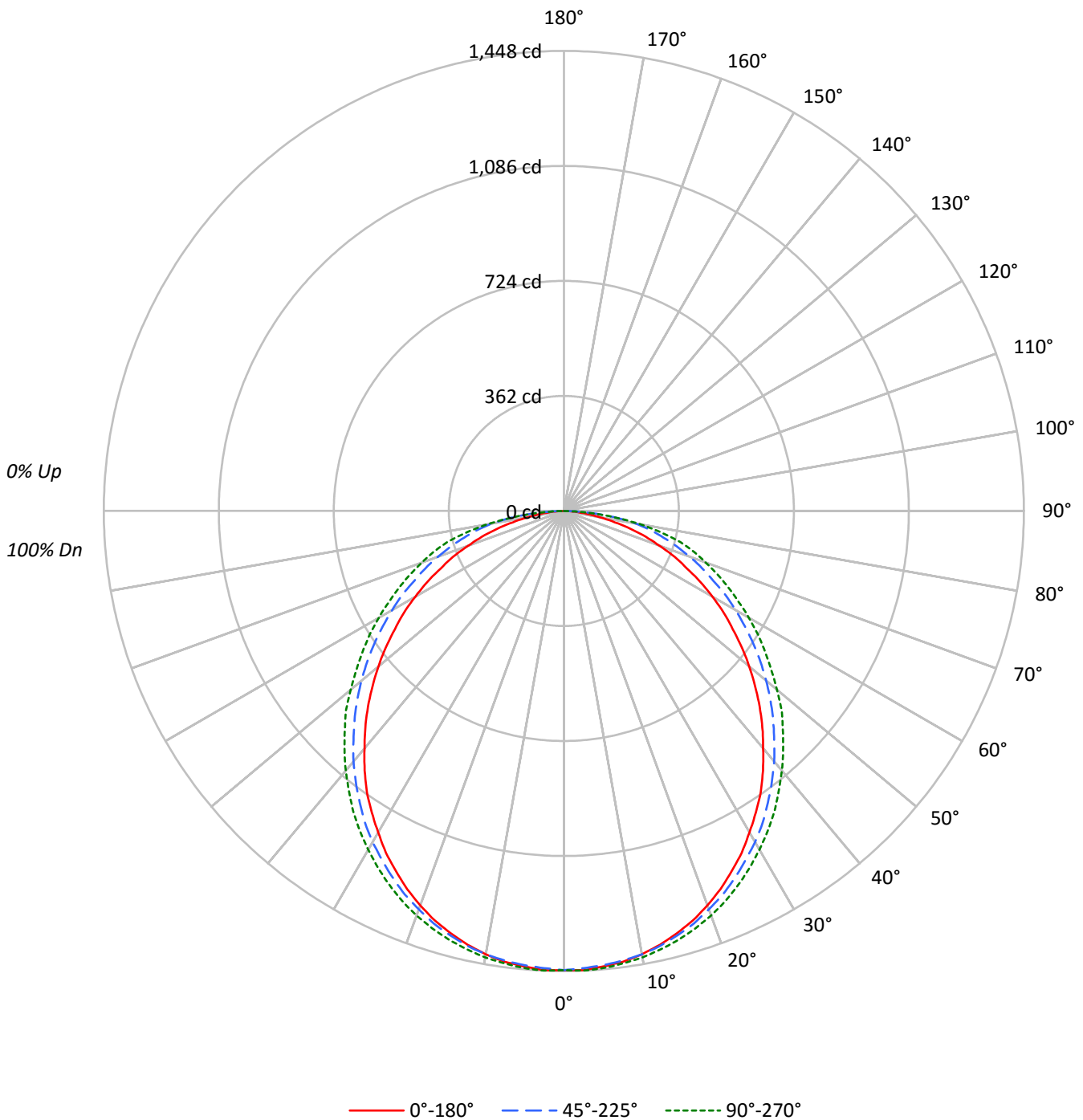
Lumens per Lamp: N/A
Luminaire Lumens: 4114.0 lumens
Efficiency: N/A
Efficacy: 109.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 37.5
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°	1945	1945	1945
5°	1943	1938	1950
10°	1935	1935	1950
15°	1917	1926	1946
20°	1892	1910	1940
25°	1857	1892	1928
30°	1815	1870	1913
35°	1775	1839	1897
40°	1714	1809	1875
45°	1658	1773	1855
50°	1595	1740	1833
55°	1524	1707	1815
60°	1452	1681	1811
65°	1360	1652	1822
70°	1260	1661	1871
75°	1128	1692	1977
80°	911	1792	1934
85°	685	1573	1533



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	3.3
10°-20°	391.0	9.5
20°-30°	587.7	14.3
30°-40°	700.0	17.0
40°-50°	716.5	17.4
50°-60°	645.0	15.7
60°-70°	506.6	12.3
70°-80°	328.8	8.0
80°-90°	101.7	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°	1115.5	27.1
0°-40°	1815.5	44.1
0°-60°	3177.0	77.2
0°-90°	4114.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4114.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1439	1441	1435	1443	1444	137
15°	1376	1380	1383	1394	1397	388
25°	1251	1261	1274	1295	1299	576
35°	1081	1094	1120	1147	1155	674
45°	872	892	932	967	975	672
55°	650	678	728	766	774	582
65°	427	460	519	562	572	425
75°	217	259	325	370	380	230
85°	44	82	102	99	99	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1445.3	1445.3	1445.3	1445.3	1445.3
2.5°	1446.6	1446.6	1440.0	1446.6	1447.9
5°	1438.7	1441.4	1434.8	1442.7	1444.0
7.5°	1430.9	1430.9	1427.0	1434.8	1436.1
10°	1416.5	1417.8	1416.5	1425.7	1427.0
12.5°	1398.2	1400.8	1402.2	1411.3	1412.6
15°	1376.0	1379.9	1382.6	1394.3	1396.9
17.5°	1351.2	1355.1	1361.6	1374.7	1377.3
20°	1321.1	1326.4	1334.2	1351.2	1355.1
22.5°	1288.5	1293.7	1306.8	1322.4	1329.0
25°	1250.6	1261.0	1274.1	1295.0	1298.9
27.5°	1212.7	1221.8	1238.8	1261.0	1266.2
30°	1168.2	1182.6	1203.5	1225.7	1231.0
32.5°	1125.1	1139.5	1164.3	1187.8	1194.4
35°	1080.7	1093.8	1119.9	1147.3	1155.2
37.5°	1029.7	1046.7	1075.5	1102.9	1110.7
40°	976.1	997.1	1029.7	1058.5	1067.6
42.5°	925.2	947.4	980.1	1011.4	1021.9
45°	871.6	892.5	931.7	967.0	974.8
47.5°	816.7	840.2	882.1	917.3	930.4
50°	761.8	786.7	831.1	867.7	875.5
52.5°	707.0	733.1	780.1	819.3	823.3
55°	649.5	678.2	727.9	765.8	773.6
57.5°	597.2	622.0	675.6	714.8	723.9
60°	539.7	567.1	624.6	661.2	673.0
62.5°	484.8	513.6	573.7	610.3	620.7
65°	427.3	460.0	518.8	561.9	572.4
67.5°	377.7	409.0	471.7	513.6	524.0
70°	320.2	355.4	422.1	465.2	475.7
72.5°	270.5	307.1	373.7	415.5	431.2
75°	216.9	258.7	325.4	369.8	380.3
77.5°	164.7	213.0	281.0	314.9	314.9
80°	117.6	168.6	231.3	247.0	249.6
82.5°	77.1	126.8	171.2	169.9	169.9
85°	44.4	82.3	101.9	99.3	99.3
87.5°	17.0	34.0	36.6	36.6	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)