

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: P311492

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA125-W2A-U-4000K**

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: P311492
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-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (168) 4000K 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: 4331.0 lumens
Efficiency: N/A
Efficacy: 114.0 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

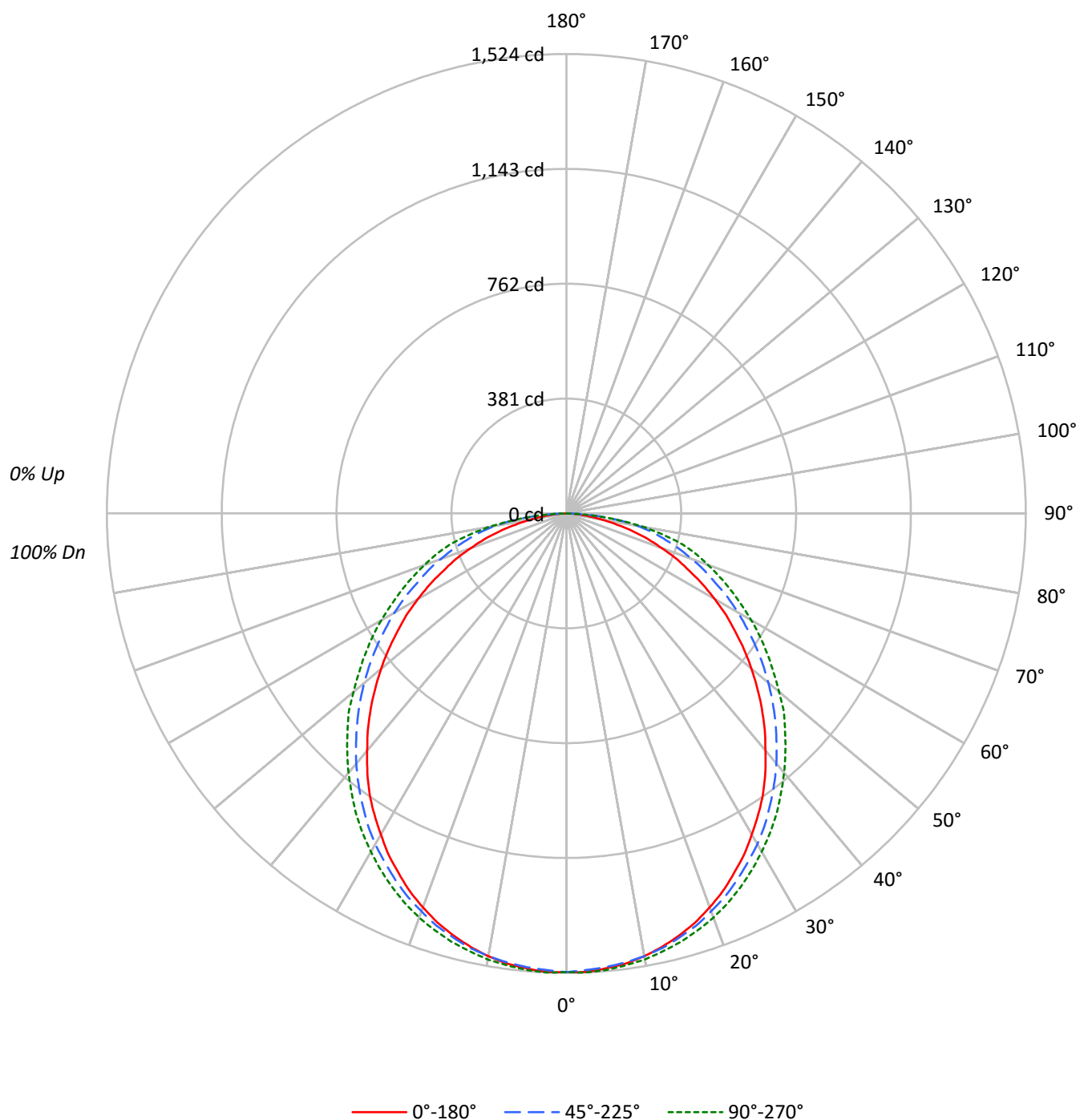
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10
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°	2047	2047	2047
5°	2046	2040	2053
10°	2037	2037	2052
15°	2018	2027	2048
20°	1991	2011	2043
25°	1954	1991	2030
30°	1911	1968	2013
35°	1869	1937	1997
40°	1805	1904	1974
45°	1746	1866	1953
50°	1679	1831	1929
55°	1604	1798	1910
60°	1529	1770	1907
65°	1432	1739	1918
70°	1326	1748	1970
75°	1187	1781	2081
80°	959	1887	2036
85°	722	1656	1615



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.0	3.3
10°-20°	411.6	9.5
20°-30°	618.7	14.3
30°-40°	737.0	17.0
40°-50°	754.3	17.4
50°-60°	679.1	15.7
60°-70°	533.3	12.3
70°-80°	346.1	8.0
80°-90°	107.0	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°	1174.3	27.1
0°-40°	1911.3	44.1
0°-60°	3344.6	77.2
0°-90°	4331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1522	1522	1522	1522	1522	
5°	1515	1517	1510	1519	1520	144
15°	1449	1453	1456	1468	1471	408
25°	1316	1328	1341	1363	1367	606
35°	1138	1151	1179	1208	1216	710
45°	918	940	981	1018	1026	707
55°	684	714	766	806	814	613
65°	450	484	546	592	603	448
75°	228	272	342	389	400	242
85°	47	87	107	105	105	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1521.5	1521.5	1521.5	1521.5	1521.5
2.5°	1522.9	1522.9	1516.0	1522.9	1524.3
5°	1514.6	1517.4	1510.5	1518.8	1520.1
7.5°	1506.4	1506.4	1502.2	1510.5	1511.9
10°	1491.2	1492.6	1491.2	1500.9	1502.2
12.5°	1472.0	1474.7	1476.1	1485.7	1487.1
15°	1448.6	1452.7	1455.5	1467.9	1470.6
17.5°	1422.5	1426.6	1433.5	1447.2	1450.0
20°	1390.8	1396.3	1404.6	1422.5	1426.6
22.5°	1356.4	1361.9	1375.7	1392.2	1399.1
25°	1316.5	1327.5	1341.3	1363.3	1367.4
27.5°	1276.6	1286.3	1304.2	1327.5	1333.0
30°	1229.9	1245.0	1267.0	1290.4	1295.9
32.5°	1184.5	1199.6	1225.7	1250.5	1257.4
35°	1137.7	1151.4	1179.0	1207.9	1216.1
37.5°	1084.0	1101.9	1132.2	1161.1	1169.3
40°	1027.6	1049.6	1084.0	1114.3	1123.9
42.5°	974.0	997.4	1031.8	1064.8	1075.8
45°	917.6	939.6	980.9	1018.0	1026.3
47.5°	859.8	884.6	928.6	965.7	979.5
50°	802.0	828.2	874.9	913.5	921.7
52.5°	744.2	771.8	821.3	862.6	866.7
55°	683.7	714.0	766.3	806.2	814.4
57.5°	628.7	654.8	711.2	752.5	762.1
60°	568.2	597.0	657.6	696.1	708.5
62.5°	510.4	540.6	603.9	642.4	653.5
65°	449.8	484.2	546.1	591.5	602.6
67.5°	397.6	430.6	496.6	540.6	551.7
70°	337.0	374.2	444.3	489.7	500.7
72.5°	284.8	323.3	393.4	437.5	454.0
75°	228.4	272.4	342.5	389.3	400.3
77.5°	173.3	224.2	295.8	331.5	331.5
80°	123.8	177.5	243.5	260.0	262.8
82.5°	81.2	133.4	180.2	178.8	178.8
85°	46.8	86.7	107.3	104.6	104.6
87.5°	17.9	35.8	38.5	38.5	37.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)