

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: P314115

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-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: P314115
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: 24FCZ2-70HE-UNV-L83050-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 6092.0 lumens
Efficiency: N/A
Efficacy: 105.8 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

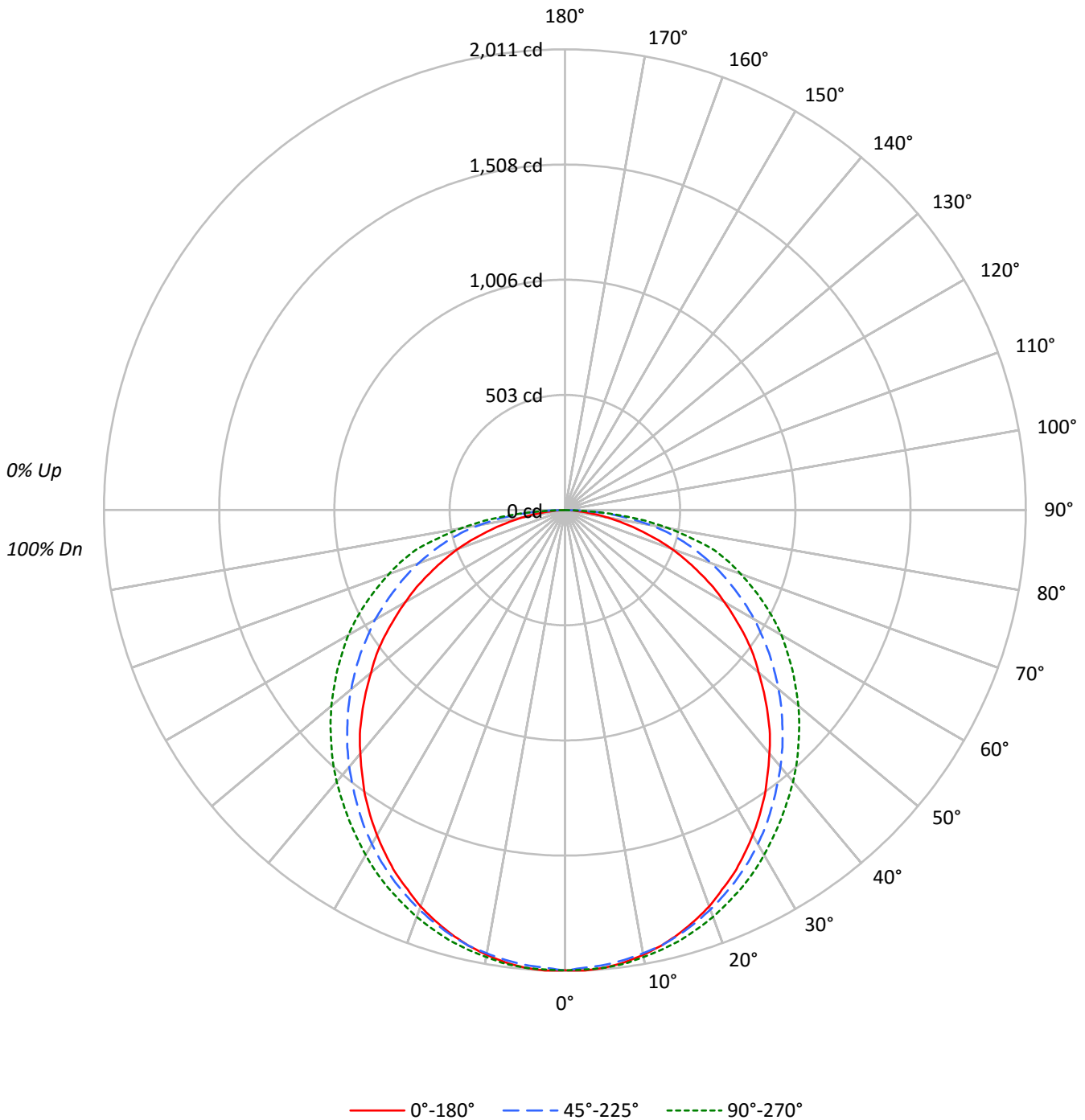
Input Watts (W): 57.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2703	2703	2703
5°	2708	2692	2708
10°	2692	2684	2706
15°	2669	2675	2708
20°	2636	2657	2706
25°	2596	2638	2704
30°	2547	2616	2701
35°	2497	2589	2702
40°	2439	2570	2719
45°	2381	2554	2742
50°	2310	2547	2784
55°	2252	2551	2840
60°	2165	2573	2937
65°	2066	2600	3044
70°	1956	2679	3212
75°	1744	2795	3510
80°	1488	2960	3587
85°	1061	2933	3432



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.1	3.1
10°-20°	543.7	8.9
20°-30°	821.2	13.5
30°-40°	989.7	16.2
40°-50°	1039.0	17.1
50°-60°	972.0	16.0
60°-70°	802.7	13.2
70°-80°	547.0	9.0
80°-90°	186.5	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°	1555.0	25.5
0°-40°	2544.7	41.8
0°-60°	4555.7	74.8
0°-90°	6092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2009	2009	2009	2009	2009	
5°	2005	2003	1993	2005	2005	190
15°	1916	1918	1920	1940	1944	540
25°	1748	1756	1777	1811	1821	804
35°	1520	1536	1576	1629	1645	950
45°	1251	1277	1342	1415	1441	965
55°	960	998	1087	1176	1211	857
65°	649	703	817	920	956	644
75°	336	412	538	639	675	358
85°	69	135	190	214	222	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2009.1	2009.1	2009.1	2009.1	2009.1
2.5°	2011.1	2009.1	1999.0	2009.1	2007.1
5°	2005.0	2003.0	1992.9	2005.0	2005.0
7.5°	1990.9	1990.9	1980.8	1994.9	1997.0
10°	1970.7	1970.7	1964.6	1980.8	1980.8
12.5°	1946.4	1946.4	1946.4	1962.6	1964.6
15°	1916.1	1918.1	1920.2	1940.4	1944.4
17.5°	1879.7	1883.8	1889.8	1914.1	1918.1
20°	1841.3	1845.4	1855.5	1883.8	1889.8
22.5°	1792.8	1802.9	1817.1	1849.4	1855.5
25°	1748.4	1756.4	1776.6	1811.0	1821.1
27.5°	1693.8	1705.9	1732.2	1768.6	1782.7
30°	1639.2	1651.3	1683.7	1726.1	1738.2
32.5°	1580.6	1598.8	1633.1	1677.6	1691.8
35°	1520.0	1536.1	1576.5	1629.1	1645.3
37.5°	1453.3	1475.5	1520.0	1576.5	1596.8
40°	1388.6	1412.8	1463.4	1524.0	1548.3
42.5°	1323.9	1348.2	1404.7	1473.5	1497.7
45°	1251.1	1277.4	1342.1	1414.9	1441.1
47.5°	1178.4	1210.7	1281.5	1358.3	1386.6
50°	1103.6	1140.0	1216.8	1297.6	1330.0
52.5°	1036.9	1071.2	1152.1	1239.0	1269.3
55°	960.1	998.5	1087.4	1176.3	1210.7
57.5°	881.3	923.7	1018.7	1115.7	1150.1
60°	804.4	850.9	956.0	1053.1	1091.5
62.5°	729.7	776.1	885.3	986.4	1024.8
65°	648.8	703.4	816.6	919.7	956.0
67.5°	572.0	630.6	749.9	850.9	887.3
70°	497.2	553.8	681.1	780.2	816.6
72.5°	416.4	481.0	608.4	711.5	749.9
75°	335.5	412.3	537.6	638.7	675.1
77.5°	260.7	339.6	464.9	547.7	565.9
80°	192.0	272.9	382.0	440.6	462.9
82.5°	123.3	204.1	291.1	333.5	351.7
85°	68.7	135.4	190.0	214.2	222.3
87.5°	28.3	58.6	76.8	86.9	86.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)