

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: P311076

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P311076
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-L82765-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: 6086.0 lumens
Efficiency: N/A
Efficacy: 106.2 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

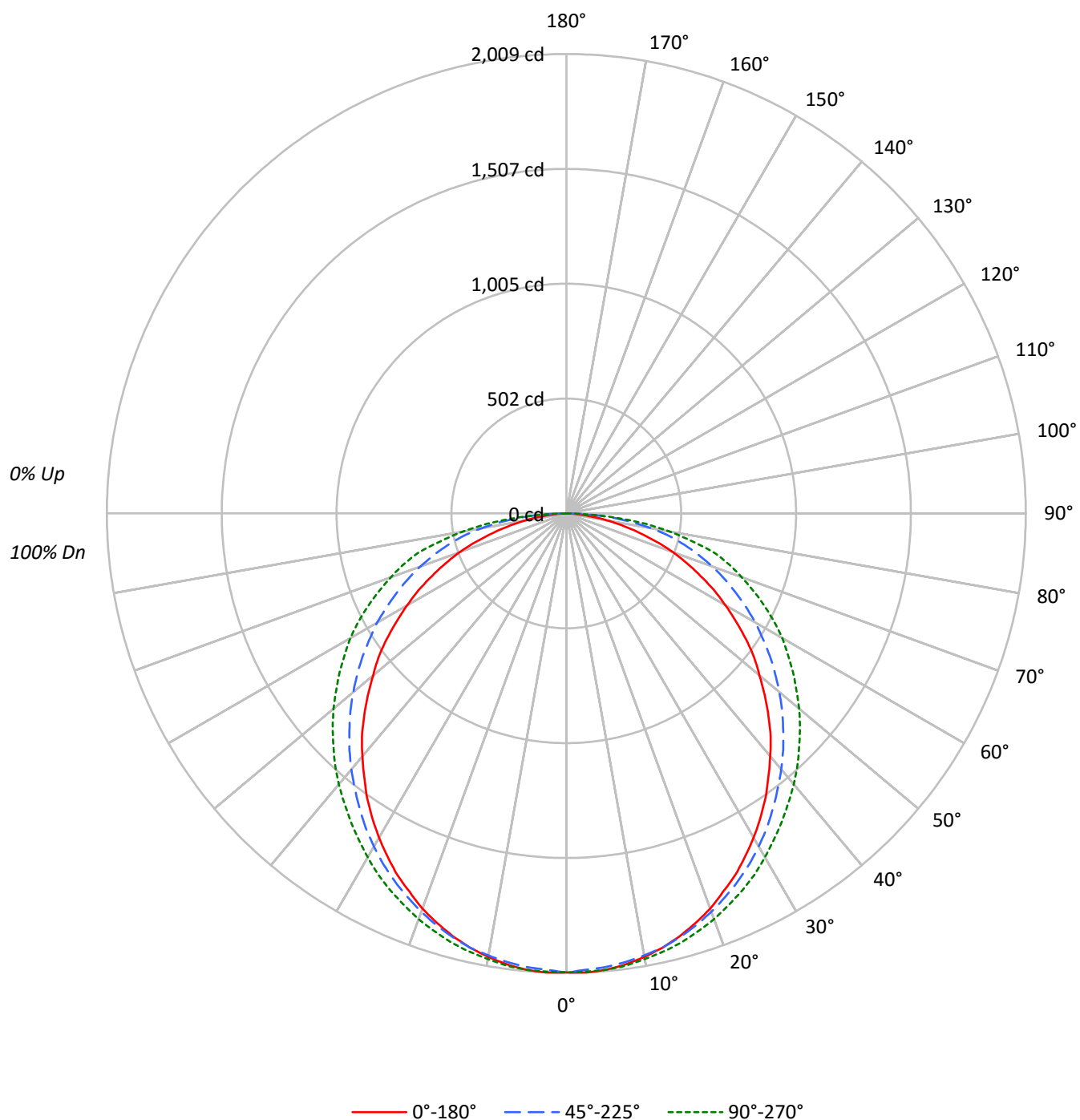
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2701	2701	2701
5°	2705	2689	2705
10°	2690	2682	2704
15°	2666	2672	2706
20°	2634	2654	2703
25°	2593	2635	2701
30°	2544	2613	2698
35°	2494	2587	2700
40°	2436	2568	2717
45°	2378	2551	2739
50°	2308	2545	2781
55°	2250	2548	2837
60°	2163	2570	2934
65°	2064	2597	3041
70°	1954	2677	3209
75°	1743	2792	3506
80°	1486	2957	3583
85°	1061	2930	3429



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.9	3.1
10°-20°	543.1	8.9
20°-30°	820.4	13.5
30°-40°	988.7	16.2
40°-50°	1038.0	17.1
50°-60°	971.1	16.0
60°-70°	801.9	13.2
70°-80°	546.5	9.0
80°-90°	186.4	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°	1553.4	25.5
0°-40°	2542.2	41.8
0°-60°	4551.2	74.8
0°-90°	6086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6086.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2007	2007	2007	2007	2007	
5°	2003	2001	1991	2003	2003	190
15°	1914	1916	1918	1938	1942	540
25°	1747	1755	1775	1809	1819	804
35°	1518	1535	1575	1628	1644	949
45°	1250	1276	1341	1414	1440	964
55°	959	998	1086	1175	1210	856
65°	648	703	816	919	955	643
75°	335	412	537	638	674	357
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°	2007.1	2007.1	2007.1	2007.1	2007.1
2.5°	2009.1	2007.1	1997.0	2007.1	2005.1
5°	2003.1	2001.1	1991.0	2003.1	2003.1
7.5°	1988.9	1988.9	1978.8	1993.0	1995.0
10°	1968.7	1968.7	1962.7	1978.8	1978.8
12.5°	1944.5	1944.5	1944.5	1960.7	1962.7
15°	1914.2	1916.2	1918.3	1938.5	1942.5
17.5°	1877.9	1881.9	1888.0	1912.2	1916.2
20°	1839.5	1843.6	1853.6	1881.9	1888.0
22.5°	1791.1	1801.1	1815.3	1847.6	1853.6
25°	1746.6	1754.7	1774.9	1809.2	1819.3
27.5°	1692.1	1704.2	1730.5	1766.8	1781.0
30°	1637.6	1649.7	1682.0	1724.4	1736.5
32.5°	1579.0	1597.2	1631.5	1676.0	1690.1
35°	1518.5	1534.6	1575.0	1627.5	1643.6
37.5°	1451.8	1474.0	1518.5	1575.0	1595.2
40°	1387.2	1411.4	1461.9	1522.5	1546.7
42.5°	1322.6	1346.8	1403.4	1472.0	1496.2
45°	1249.9	1276.2	1340.8	1413.5	1439.7
47.5°	1177.2	1209.5	1280.2	1356.9	1385.2
50°	1102.5	1138.8	1215.6	1296.3	1328.7
52.5°	1035.9	1070.2	1151.0	1237.8	1268.1
55°	959.1	997.5	1086.3	1175.2	1209.5
57.5°	880.4	922.8	1017.7	1114.6	1148.9
60°	803.7	850.1	955.1	1052.0	1090.4
62.5°	728.9	775.4	884.4	985.4	1023.7
65°	648.2	702.7	815.8	918.7	955.1
67.5°	571.4	630.0	749.1	850.1	886.4
70°	496.7	553.3	680.5	779.4	815.8
72.5°	416.0	480.6	607.8	710.8	749.1
75°	335.2	411.9	537.1	638.1	674.4
77.5°	260.5	339.2	464.4	547.2	565.4
80°	191.8	272.6	381.6	440.2	462.4
82.5°	123.2	203.9	290.8	333.2	351.3
85°	68.7	135.3	189.8	214.0	222.1
87.5°	28.3	58.6	76.7	86.8	86.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)