

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: P311102

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP187-W2A-U-2700K**

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: P311102
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-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 5535.0 lumens
Efficiency: N/A
Efficacy: 95.9 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

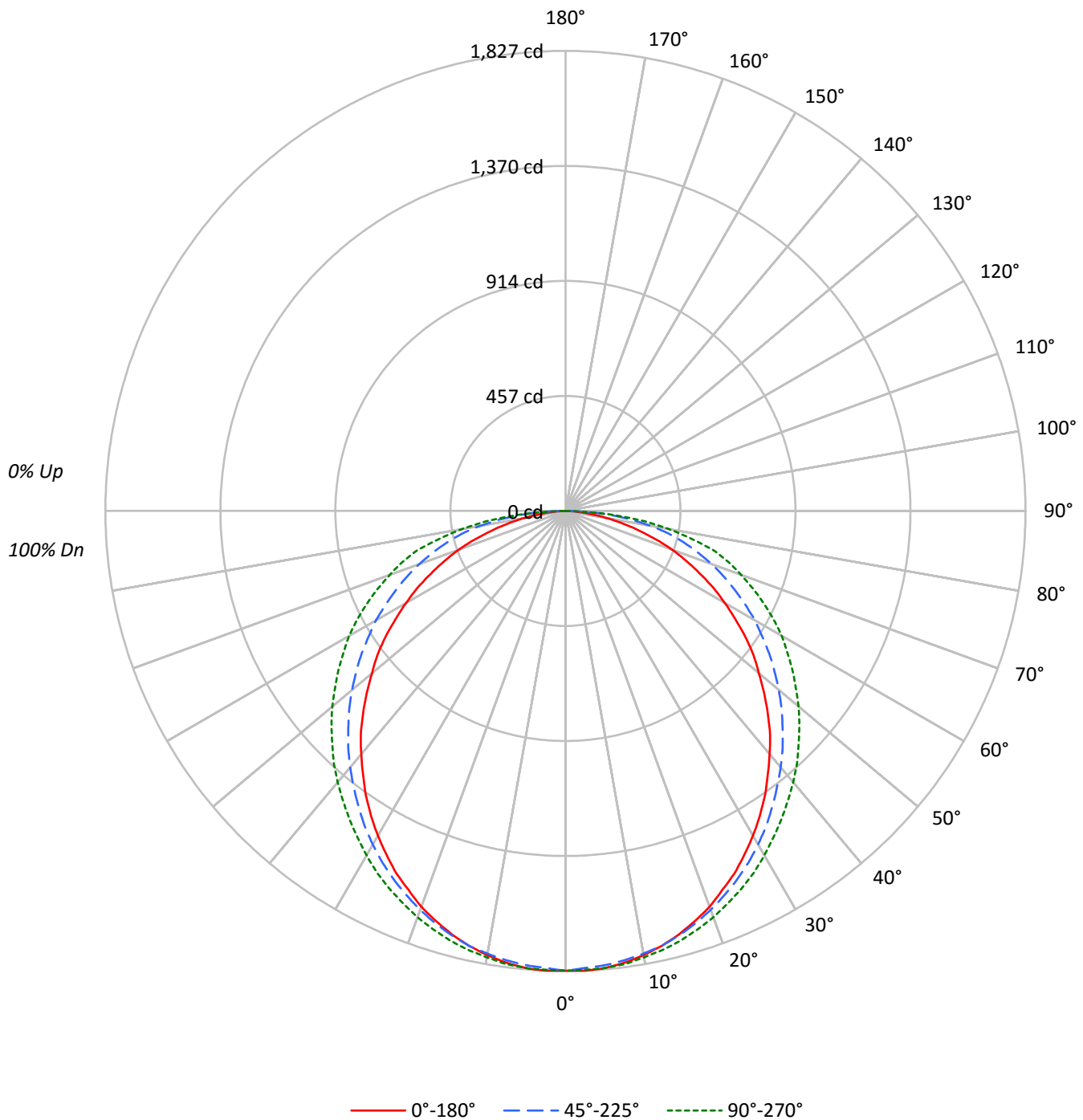
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2456	2456	2456
5°	2460	2446	2460
10°	2446	2439	2459
15°	2425	2430	2461
20°	2395	2414	2458
25°	2358	2396	2456
30°	2314	2377	2454
35°	2268	2353	2455
40°	2216	2335	2471
45°	2163	2320	2492
50°	2099	2314	2529
55°	2046	2318	2580
60°	1967	2337	2669
65°	1877	2362	2765
70°	1777	2435	2919
75°	1585	2540	3189
80°	1352	2689	3258
85°	963	2665	3118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	3.1
10°-20°	494.0	8.9
20°-30°	746.1	13.5
30°-40°	899.2	16.2
40°-50°	944.0	17.1
50°-60°	883.2	16.0
60°-70°	729.3	13.2
70°-80°	497.0	9.0
80°-90°	169.5	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°	1412.8	25.5
0°-40°	2312.0	41.8
0°-60°	4139.2	74.8
0°-90°	5535.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5535.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1825	1825	1825	1825	1825	
5°	1822	1820	1811	1822	1822	173
15°	1741	1743	1745	1763	1767	491
25°	1588	1596	1614	1645	1655	731
35°	1381	1396	1432	1480	1495	863
45°	1137	1161	1219	1286	1309	877
55°	872	907	988	1069	1100	779
65°	590	639	742	836	869	585
75°	305	375	488	580	613	325
85°	62	123	173	195	202	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1825.4	1825.4	1825.4	1825.4	1825.4
2.5°	1827.2	1825.4	1816.2	1825.4	1823.6
5°	1821.7	1819.9	1810.7	1821.7	1821.7
7.5°	1808.9	1808.9	1799.7	1812.5	1814.4
10°	1790.5	1790.5	1785.0	1799.7	1799.7
12.5°	1768.5	1768.5	1768.5	1783.2	1785.0
15°	1740.9	1742.8	1744.6	1763.0	1766.6
17.5°	1707.9	1711.5	1717.0	1739.1	1742.8
20°	1673.0	1676.6	1685.8	1711.5	1717.0
22.5°	1628.9	1638.1	1650.9	1680.3	1685.8
25°	1588.5	1595.8	1614.2	1645.4	1654.6
27.5°	1538.9	1549.9	1573.8	1606.9	1619.7
30°	1489.3	1500.3	1529.7	1568.3	1579.3
32.5°	1436.1	1452.6	1483.8	1524.2	1537.1
35°	1381.0	1395.7	1432.4	1480.1	1494.8
37.5°	1320.4	1340.6	1381.0	1432.4	1450.8
40°	1261.6	1283.7	1329.6	1384.7	1406.7
42.5°	1202.9	1224.9	1276.3	1338.7	1360.8
45°	1136.7	1160.6	1219.4	1285.5	1309.4
47.5°	1070.6	1100.0	1164.3	1234.1	1259.8
50°	1002.7	1035.7	1105.5	1179.0	1208.4
52.5°	942.1	973.3	1046.8	1125.7	1153.3
55°	872.3	907.2	988.0	1068.8	1100.0
57.5°	800.7	839.2	925.6	1013.7	1044.9
60°	730.9	773.1	868.6	956.8	991.7
62.5°	662.9	705.2	804.3	896.2	931.1
65°	589.5	639.1	741.9	835.6	868.6
67.5°	519.7	573.0	681.3	773.1	806.2
70°	451.8	503.2	618.9	708.9	741.9
72.5°	378.3	437.1	552.8	646.4	681.3
75°	304.8	374.6	488.5	580.3	613.4
77.5°	236.9	308.5	422.4	497.7	514.2
80°	174.5	247.9	347.1	400.3	420.5
82.5°	112.0	185.5	264.4	303.0	319.5
85°	62.4	123.0	172.6	194.7	202.0
87.5°	25.7	53.3	69.8	79.0	79.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)