

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: P311086

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-W2A-U-3500K**

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: P311086
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 3500K 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: 6274.0 lumens
Efficiency: N/A
Efficacy: 108.2 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

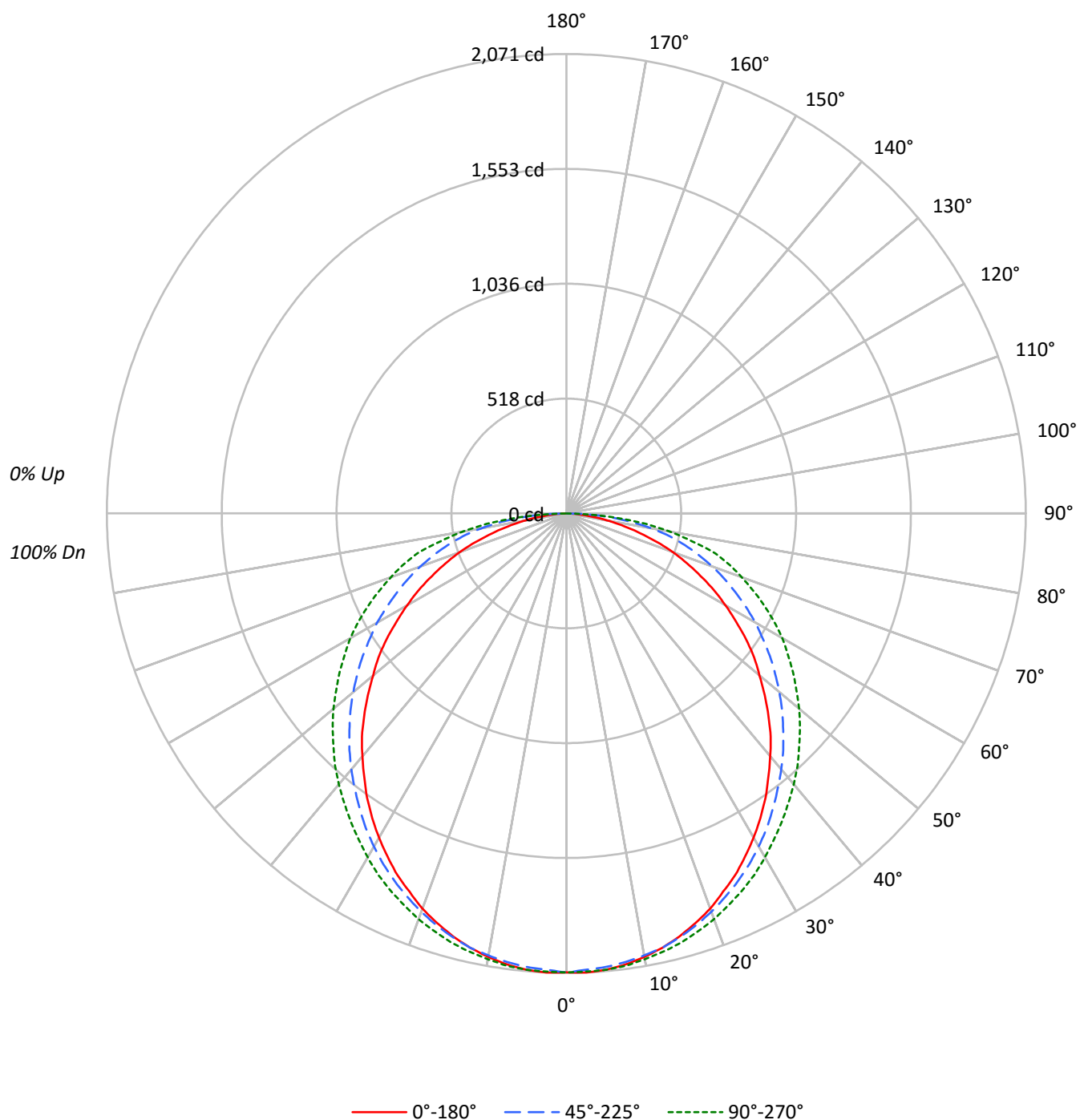
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2784	2784	2784
5°	2789	2772	2789
10°	2773	2764	2787
15°	2749	2755	2789
20°	2715	2736	2787
25°	2673	2716	2784
30°	2623	2694	2781
35°	2571	2667	2783
40°	2512	2647	2801
45°	2452	2630	2824
50°	2379	2623	2867
55°	2320	2627	2925
60°	2229	2650	3025
65°	2127	2677	3135
70°	2015	2760	3308
75°	1796	2878	3615
80°	1533	3048	3694
85°	1093	3021	3535



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.8	3.1
10°-20°	559.9	8.9
20°-30°	845.7	13.5
30°-40°	1019.3	16.2
40°-50°	1070.0	17.1
50°-60°	1001.1	16.0
60°-70°	826.7	13.2
70°-80°	563.3	9.0
80°-90°	192.1	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°	1601.4	25.5
0°-40°	2620.7	41.8
0°-60°	4691.8	74.8
0°-90°	6274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6274.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2069	2069	2069	2069	2069	
5°	2065	2063	2052	2065	2065	196
15°	1973	1975	1978	1998	2002	556
25°	1801	1809	1830	1865	1876	828
35°	1565	1582	1624	1678	1694	978
45°	1288	1316	1382	1457	1484	994
55°	989	1028	1120	1212	1247	883
65°	668	724	841	947	985	663
75°	346	425	554	658	695	368
85°	71	140	196	221	229	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2069.1	2069.1	2069.1	2069.1	2069.1
2.5°	2071.2	2069.1	2058.7	2069.1	2067.0
5°	2064.9	2062.9	2052.5	2064.9	2064.9
7.5°	2050.4	2050.4	2040.0	2054.5	2056.6
10°	2029.6	2029.6	2023.3	2040.0	2040.0
12.5°	2004.6	2004.6	2004.6	2021.2	2023.3
15°	1973.4	1975.4	1977.5	1998.3	2002.5
17.5°	1935.9	1940.1	1946.3	1971.3	1975.4
20°	1896.3	1900.5	1910.9	1940.1	1946.3
22.5°	1846.4	1856.8	1871.4	1904.7	1910.9
25°	1800.6	1808.9	1829.7	1865.1	1875.5
27.5°	1744.4	1756.9	1783.9	1821.4	1836.0
30°	1688.2	1700.7	1734.0	1777.7	1790.2
32.5°	1627.8	1646.5	1681.9	1727.7	1742.3
35°	1565.4	1582.0	1623.6	1677.8	1694.4
37.5°	1496.7	1519.6	1565.4	1623.6	1644.5
40°	1430.1	1455.0	1507.1	1569.5	1594.5
42.5°	1363.4	1388.4	1446.7	1517.5	1542.5
45°	1288.5	1315.6	1382.2	1457.1	1484.2
47.5°	1213.6	1246.9	1319.7	1398.8	1428.0
50°	1136.6	1174.0	1253.1	1336.4	1369.7
52.5°	1067.9	1103.2	1186.5	1276.0	1307.2
55°	988.8	1028.3	1119.9	1211.5	1246.9
57.5°	907.6	951.3	1049.1	1149.0	1184.4
60°	828.5	876.4	984.6	1084.5	1124.1
62.5°	751.5	799.3	911.7	1015.8	1055.4
65°	668.2	724.4	841.0	947.1	984.6
67.5°	589.1	649.5	772.3	876.4	913.8
70°	512.1	570.4	701.5	803.5	841.0
72.5°	428.8	495.4	626.6	732.7	772.3
75°	345.5	424.6	553.7	657.8	695.3
77.5°	268.5	349.7	478.8	564.1	582.8
80°	197.8	281.0	393.4	453.8	476.7
82.5°	127.0	210.2	299.8	343.5	362.2
85°	70.8	139.5	195.7	220.6	229.0
87.5°	29.1	60.4	79.1	89.5	89.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)