

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: P311097

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP125-W2A-U-4500K**

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: P311097
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4500K 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: 6399.0 lumens
Efficiency: N/A
Efficacy: 108.8 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

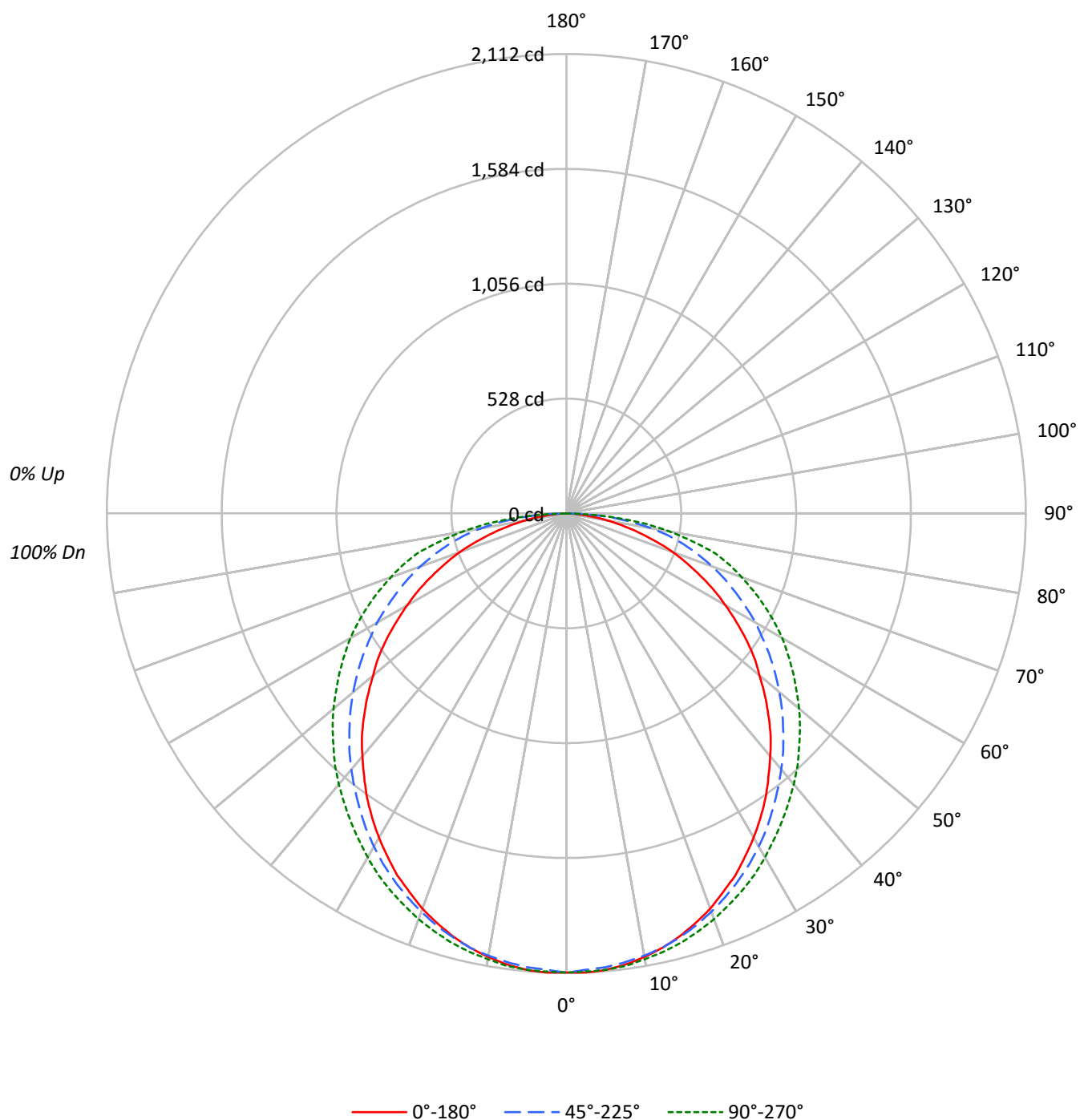
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2839	2839	2839
5°	2845	2827	2845
10°	2828	2819	2843
15°	2804	2809	2845
20°	2769	2791	2842
25°	2726	2771	2840
30°	2675	2748	2837
35°	2622	2720	2839
40°	2562	2700	2856
45°	2501	2682	2880
50°	2426	2675	2924
55°	2366	2679	2983
60°	2274	2702	3085
65°	2170	2731	3197
70°	2055	2815	3374
75°	1832	2936	3686
80°	1563	3109	3767
85°	1115	3081	3605



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.7	3.1
10°-20°	571.1	8.9
20°-30°	862.6	13.5
30°-40°	1039.6	16.2
40°-50°	1091.4	17.1
50°-60°	1021.0	16.0
60°-70°	843.2	13.2
70°-80°	574.6	9.0
80°-90°	195.9	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°	1633.3	25.5
0°-40°	2672.9	41.8
0°-60°	4785.3	74.8
0°-90°	6399.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6399.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2110	2110	2110	2110	2110	
5°	2106	2104	2093	2106	2106	200
15°	2013	2015	2017	2038	2042	567
25°	1836	1845	1866	1902	1913	845
35°	1597	1614	1656	1711	1728	998
45°	1314	1342	1410	1486	1514	1014
55°	1008	1049	1142	1236	1272	900
65°	682	739	858	966	1004	676
75°	352	433	565	671	709	376
85°	72	142	200	225	234	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2110.3	2110.3	2110.3	2110.3	2110.3
2.5°	2112.5	2110.3	2099.7	2110.3	2108.2
5°	2106.1	2104.0	2093.3	2106.1	2106.1
7.5°	2091.2	2091.2	2080.6	2095.5	2097.6
10°	2070.0	2070.0	2063.6	2080.6	2080.6
12.5°	2044.5	2044.5	2044.5	2061.5	2063.6
15°	2012.7	2014.8	2016.9	2038.2	2042.4
17.5°	1974.5	1978.7	1985.1	2010.6	2014.8
20°	1934.1	1938.4	1949.0	1978.7	1985.1
22.5°	1883.2	1893.8	1908.6	1942.6	1949.0
25°	1836.5	1845.0	1866.2	1902.3	1912.9
27.5°	1779.1	1791.9	1819.5	1857.7	1872.6
30°	1721.8	1734.6	1768.5	1813.1	1825.8
32.5°	1660.2	1679.4	1715.4	1762.2	1777.0
35°	1596.6	1613.5	1656.0	1711.2	1728.2
37.5°	1526.5	1549.8	1596.6	1656.0	1677.2
40°	1458.6	1484.0	1537.1	1600.8	1626.3
42.5°	1390.6	1416.1	1475.5	1547.7	1573.2
45°	1314.2	1341.8	1409.7	1486.2	1513.8
47.5°	1237.8	1271.7	1346.0	1426.7	1456.4
50°	1159.2	1197.4	1278.1	1363.0	1397.0
52.5°	1089.1	1125.2	1210.2	1301.4	1333.3
55°	1008.5	1048.8	1142.2	1235.6	1271.7
57.5°	925.7	970.2	1070.0	1171.9	1208.0
60°	845.0	893.8	1004.2	1106.1	1146.5
62.5°	766.4	815.3	929.9	1036.1	1076.4
65°	681.5	738.8	857.7	966.0	1004.2
67.5°	600.8	662.4	787.7	893.8	932.0
70°	522.3	581.7	715.5	819.5	857.7
72.5°	437.4	505.3	639.0	747.3	787.7
75°	352.4	433.1	564.7	670.9	709.1
77.5°	273.9	356.7	488.3	575.4	594.5
80°	201.7	286.6	401.3	462.8	486.2
82.5°	129.5	214.4	305.7	350.3	369.4
85°	72.2	142.2	199.6	225.0	233.5
87.5°	29.7	61.6	80.7	91.3	91.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)