

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: P311783

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311783
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 6591.0 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

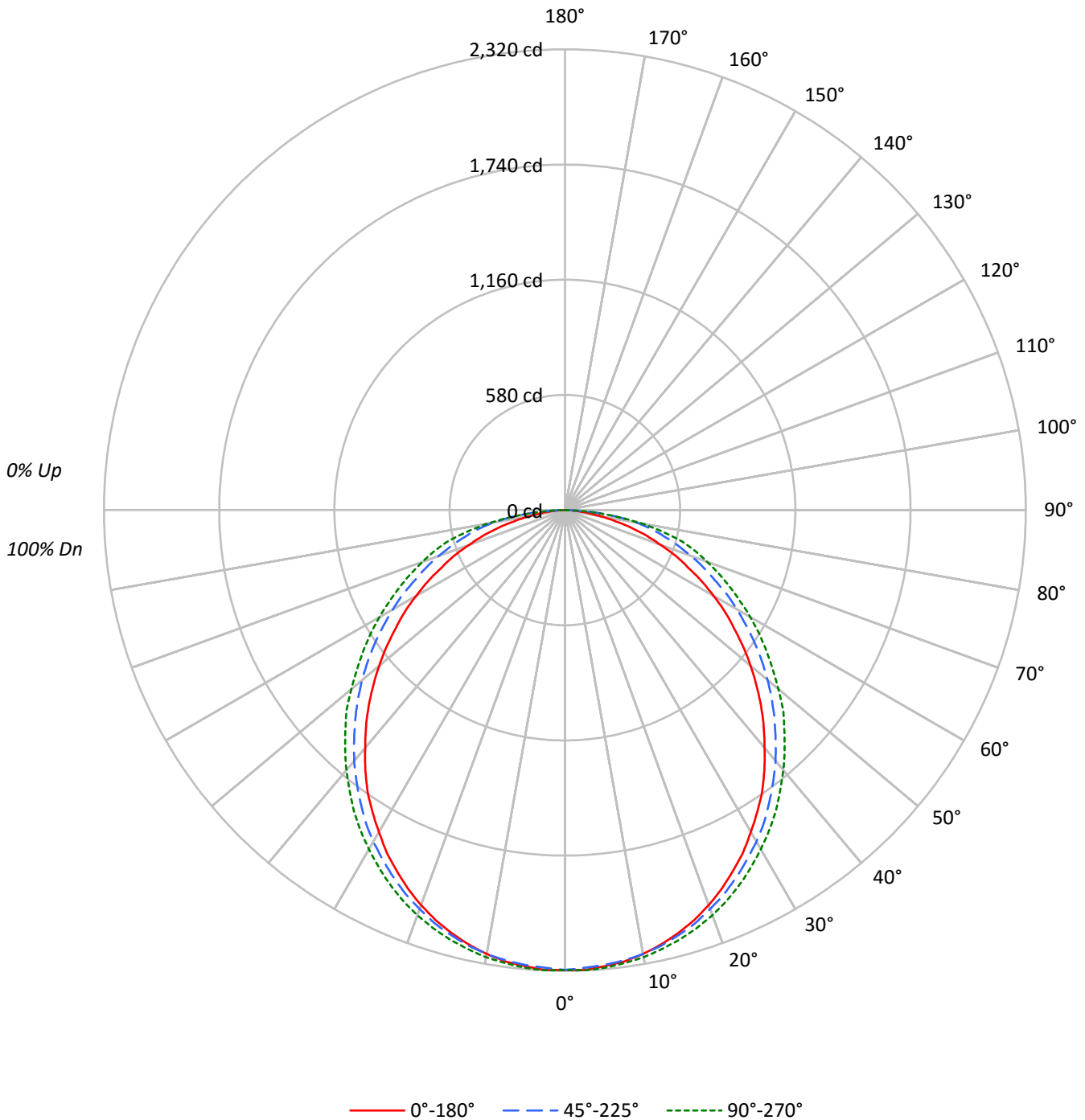
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-70HE-UNV-L82765-S-CP187-W2A-U-5500K

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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3115	3115	3115
5°	3113	3105	3125
10°	3101	3101	3124
15°	3071	3085	3117
20°	3031	3061	3109
25°	2974	3030	3089
30°	2908	2996	3064
35°	2844	2947	3040
40°	2747	2898	3004
45°	2657	2840	2972
50°	2555	2787	2936
55°	2441	2735	2907
60°	2327	2693	2901
65°	2180	2646	2919
70°	2018	2660	2998
75°	1807	2710	3167
80°	1460	2872	3099
85°	1099	2521	2456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.2	3.3
10°-20°	626.4	9.5
20°-30°	941.5	14.3
30°-40°	1121.5	17.0
40°-50°	1147.8	17.4
50°-60°	1033.4	15.7
60°-70°	811.5	12.3
70°-80°	526.7	8.0
80°-90°	162.9	2.5
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°	1787.1	27.1
0°-40°	2908.6	44.1
0°-60°	5089.9	77.2
0°-90°	6591.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6591.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2316	2316	2316	2316	2316	
5°	2305	2309	2299	2311	2313	219
15°	2204	2211	2215	2234	2238	622
25°	2004	2020	2041	2075	2081	923
35°	1731	1752	1794	1838	1851	1080
45°	1396	1430	1493	1549	1562	1077
55°	1040	1087	1166	1227	1239	933
65°	685	737	831	900	917	681
75°	348	414	521	592	609	368
85°	71	132	163	159	159	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2315.5	2315.5	2315.5	2315.5	2315.5
2.5°	2317.6	2317.6	2307.1	2317.6	2319.6
5°	2305.0	2309.2	2298.7	2311.3	2313.4
7.5°	2292.4	2292.4	2286.2	2298.7	2300.8
10°	2269.4	2271.5	2269.4	2284.1	2286.2
12.5°	2240.1	2244.3	2246.4	2261.0	2263.1
15°	2204.5	2210.8	2215.0	2233.8	2238.0
17.5°	2164.7	2171.0	2181.5	2202.4	2206.6
20°	2116.6	2124.9	2137.5	2164.7	2171.0
22.5°	2064.2	2072.6	2093.5	2118.7	2129.1
25°	2003.5	2020.3	2041.2	2074.7	2081.0
27.5°	1942.8	1957.5	1984.7	2020.3	2028.6
30°	1871.6	1894.7	1928.2	1963.7	1972.1
32.5°	1802.5	1825.6	1865.3	1903.0	1913.5
35°	1731.4	1752.3	1794.2	1838.1	1850.7
37.5°	1649.7	1676.9	1723.0	1767.0	1779.5
40°	1563.9	1597.4	1649.7	1695.8	1710.4
42.5°	1482.2	1517.8	1570.2	1620.4	1637.2
45°	1396.4	1429.9	1492.7	1549.2	1561.8
47.5°	1308.5	1346.1	1413.1	1469.7	1490.6
50°	1220.5	1260.3	1331.5	1390.1	1402.7
52.5°	1132.6	1174.5	1249.8	1312.7	1318.9
55°	1040.5	1086.6	1166.1	1226.8	1239.4
57.5°	956.8	996.5	1082.4	1145.2	1159.8
60°	864.6	908.6	1000.7	1059.3	1078.2
62.5°	776.7	822.8	919.1	977.7	994.4
65°	684.6	736.9	831.1	900.2	917.0
67.5°	605.0	655.3	755.8	822.8	839.5
70°	512.9	569.4	676.2	745.3	762.1
72.5°	433.4	492.0	598.8	665.7	690.9
75°	347.5	414.5	521.3	592.5	609.2
77.5°	263.8	341.2	450.1	504.5	504.5
80°	188.4	270.1	370.6	395.7	399.9
82.5°	123.5	203.1	274.3	272.2	272.2
85°	71.2	131.9	163.3	159.1	159.1
87.5°	27.2	54.4	58.6	58.6	56.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)