

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: P313372

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CA125-W2A-U-4000K**

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: P313372
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-L83050-HRP-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4000K 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: 5239.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

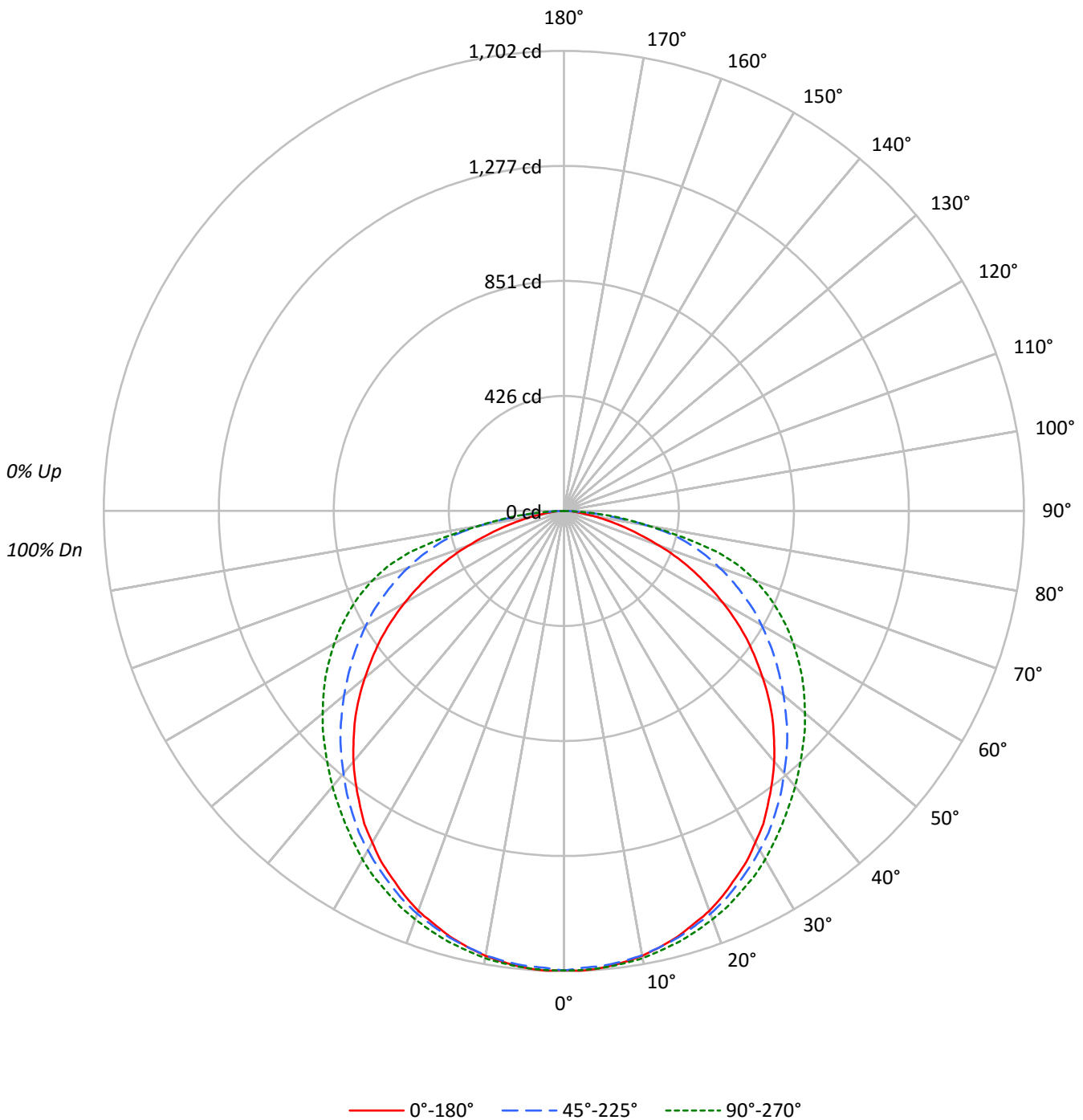
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2287	2287	2287
5°	2290	2281	2290
10°	2283	2280	2295
15°	2270	2276	2298
20°	2255	2270	2302
25°	2227	2260	2305
30°	2201	2252	2314
35°	2165	2241	2316
40°	2126	2227	2338
45°	2078	2224	2375
50°	2011	2222	2438
55°	1940	2238	2526
60°	1830	2272	2638
65°	1690	2325	2786
70°	1476	2407	2968
75°	1197	2531	3067
80°	884	2481	2481
85°	678	1828	2066



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.0	3.1
10°-20°	462.4	8.8
20°-30°	703.9	13.4
30°-40°	854.8	16.3
40°-50°	903.1	17.2
50°-60°	852.1	16.3
60°-70°	708.5	13.5
70°-80°	466.1	8.9
80°-90°	127.1	2.4
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°	1327.4	25.3
0°-40°	2182.1	41.7
0°-60°	3937.3	75.2
0°-90°	5239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1695	1695	1689	1695	1695	161
15°	1630	1632	1634	1649	1649	460
25°	1500	1509	1522	1548	1553	692
35°	1318	1334	1364	1399	1410	825
45°	1092	1114	1169	1226	1248	841
55°	827	862	954	1044	1077	737
65°	531	592	730	838	875	525
75°	230	336	487	577	590	248
85°	44	96	118	132	134	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1699.8	1699.8	1699.8	1699.8	1699.8
2.5°	1702.0	1699.8	1691.0	1699.8	1699.8
5°	1695.4	1695.4	1688.8	1695.4	1695.4
7.5°	1684.4	1684.4	1680.1	1688.8	1688.8
10°	1671.3	1671.3	1669.1	1680.1	1680.1
12.5°	1651.5	1653.7	1651.5	1664.7	1664.7
15°	1629.6	1631.8	1634.0	1649.4	1649.4
17.5°	1601.1	1605.5	1609.9	1627.4	1629.6
20°	1574.8	1577.0	1585.7	1605.5	1607.7
22.5°	1539.7	1546.3	1557.2	1577.0	1583.6
25°	1500.2	1509.0	1522.1	1548.5	1552.8
27.5°	1462.9	1469.5	1487.0	1515.6	1524.3
30°	1416.9	1427.8	1449.8	1478.3	1489.2
32.5°	1373.0	1384.0	1410.3	1441.0	1449.8
35°	1318.2	1333.5	1364.2	1399.3	1410.3
37.5°	1265.5	1280.9	1318.2	1357.6	1370.8
40°	1210.7	1228.2	1267.7	1313.8	1331.3
42.5°	1151.5	1175.6	1219.5	1269.9	1289.7
45°	1092.3	1114.2	1169.0	1226.0	1248.0
47.5°	1028.7	1055.0	1114.2	1182.2	1208.5
50°	960.7	993.6	1061.6	1136.1	1164.6
52.5°	892.7	930.0	1006.7	1090.1	1120.8
55°	826.9	862.0	954.1	1044.0	1076.9
57.5°	754.5	798.4	899.2	995.8	1028.7
60°	679.9	728.2	844.4	945.3	980.4
62.5°	605.3	660.2	791.8	892.7	930.0
65°	530.8	592.2	730.4	837.8	875.1
67.5°	458.4	526.4	673.3	780.8	818.1
70°	375.1	460.6	611.9	717.2	754.5
72.5°	298.3	397.0	552.7	651.4	684.3
75°	230.3	335.6	486.9	576.8	590.0
77.5°	168.9	274.2	418.9	449.6	451.8
80°	114.1	219.3	320.2	315.8	320.2
82.5°	74.6	164.5	201.8	225.9	228.1
85°	43.9	96.5	118.4	131.6	133.8
87.5°	21.9	32.9	41.7	43.9	48.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)