

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: P313373

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CA125-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: P313373
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 5289.0 lumens
Efficiency: N/A
Efficacy: 87.4 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

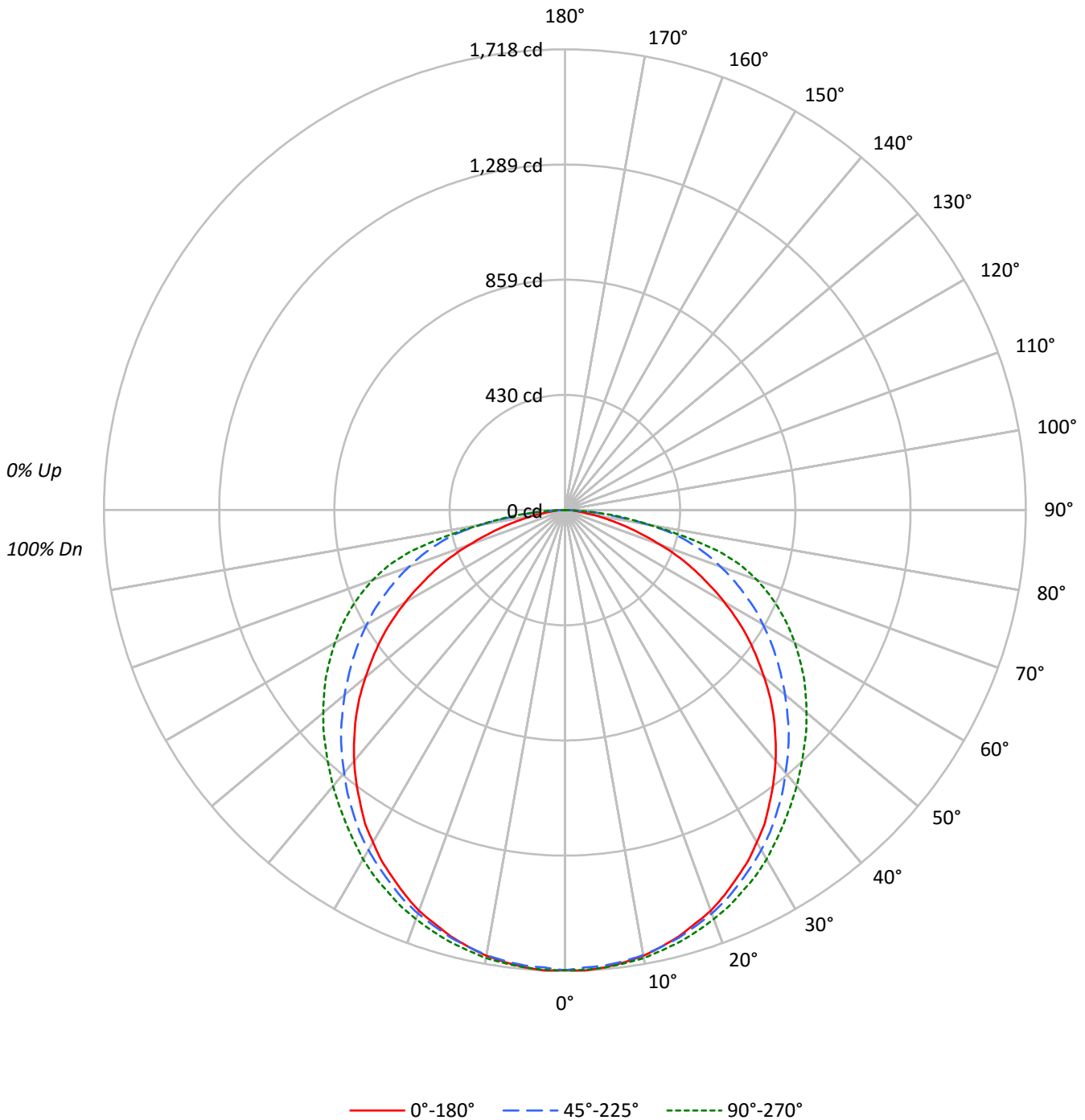
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2309	2309	2309
5°	2312	2303	2312
10°	2305	2302	2317
15°	2292	2298	2319
20°	2276	2292	2324
25°	2248	2281	2327
30°	2222	2274	2336
35°	2186	2262	2338
40°	2147	2248	2361
45°	2098	2246	2397
50°	2030	2243	2461
55°	1958	2259	2550
60°	1847	2294	2664
65°	1706	2347	2813
70°	1489	2430	2996
75°	1209	2556	3096
80°	892	2505	2505
85°	684	1846	2086



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.6	3.1
10°-20°	466.8	8.8
20°-30°	710.7	13.4
30°-40°	862.9	16.3
40°-50°	911.7	17.2
50°-60°	860.3	16.3
60°-70°	715.3	13.5
70°-80°	470.6	8.9
80°-90°	128.3	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°	1340.0	25.3
0°-40°	2202.9	41.7
0°-60°	3974.9	75.2
0°-90°	5289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5289.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1712	1712	1705	1712	1712	163
15°	1645	1647	1650	1665	1665	464
25°	1514	1523	1537	1563	1568	699
35°	1331	1346	1377	1413	1424	833
45°	1103	1125	1180	1238	1260	849
55°	835	870	963	1054	1087	744
65°	536	598	737	846	884	530
75°	232	339	492	582	596	250
85°	44	97	120	133	135	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1716.0	1716.0	1716.0	1716.0	1716.0
2.5°	1718.2	1716.0	1707.2	1716.0	1716.0
5°	1711.6	1711.6	1704.9	1711.6	1711.6
7.5°	1700.5	1700.5	1696.1	1704.9	1704.9
10°	1687.2	1687.2	1685.0	1696.1	1696.1
12.5°	1667.3	1669.5	1667.3	1680.6	1680.6
15°	1645.2	1647.4	1649.6	1665.1	1665.1
17.5°	1616.4	1620.8	1625.2	1643.0	1645.2
20°	1589.8	1592.0	1600.9	1620.8	1623.0
22.5°	1554.4	1561.0	1572.1	1592.0	1598.7
25°	1514.5	1523.4	1536.7	1563.2	1567.7
27.5°	1476.9	1483.5	1501.2	1530.0	1538.9
30°	1430.4	1441.5	1463.6	1492.4	1503.5
32.5°	1386.1	1397.2	1423.7	1454.7	1463.6
35°	1330.7	1346.2	1377.2	1412.7	1423.7
37.5°	1277.6	1293.1	1330.7	1370.6	1383.9
40°	1222.2	1240.0	1279.8	1326.3	1344.0
42.5°	1162.5	1186.8	1231.1	1282.0	1302.0
45°	1102.7	1124.8	1180.2	1237.7	1259.9
47.5°	1038.5	1065.0	1124.8	1193.5	1220.0
50°	969.8	1003.0	1071.7	1147.0	1175.8
52.5°	901.2	938.8	1016.3	1100.5	1131.5
55°	834.8	870.2	963.2	1054.0	1087.2
57.5°	761.7	806.0	907.8	1005.3	1038.5
60°	686.4	735.1	852.5	954.3	989.8
62.5°	611.1	666.5	799.3	901.2	938.8
65°	535.8	597.8	737.3	845.8	883.5
67.5°	462.8	531.4	679.8	788.3	825.9
70°	378.6	465.0	617.8	724.0	761.7
72.5°	301.1	400.8	558.0	657.6	690.8
75°	232.5	338.8	491.6	582.3	595.6
77.5°	170.5	276.8	422.9	453.9	456.1
80°	115.1	221.4	323.3	318.8	323.3
82.5°	75.3	166.1	203.7	228.1	230.3
85°	44.3	97.4	119.6	132.9	135.1
87.5°	22.1	33.2	42.1	44.3	48.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)