

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: P310994

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-W2A-U-2700K**

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: P310994
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: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 2700K 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: 5042.0 lumens
Efficiency: N/A
Efficacy: 105.9 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

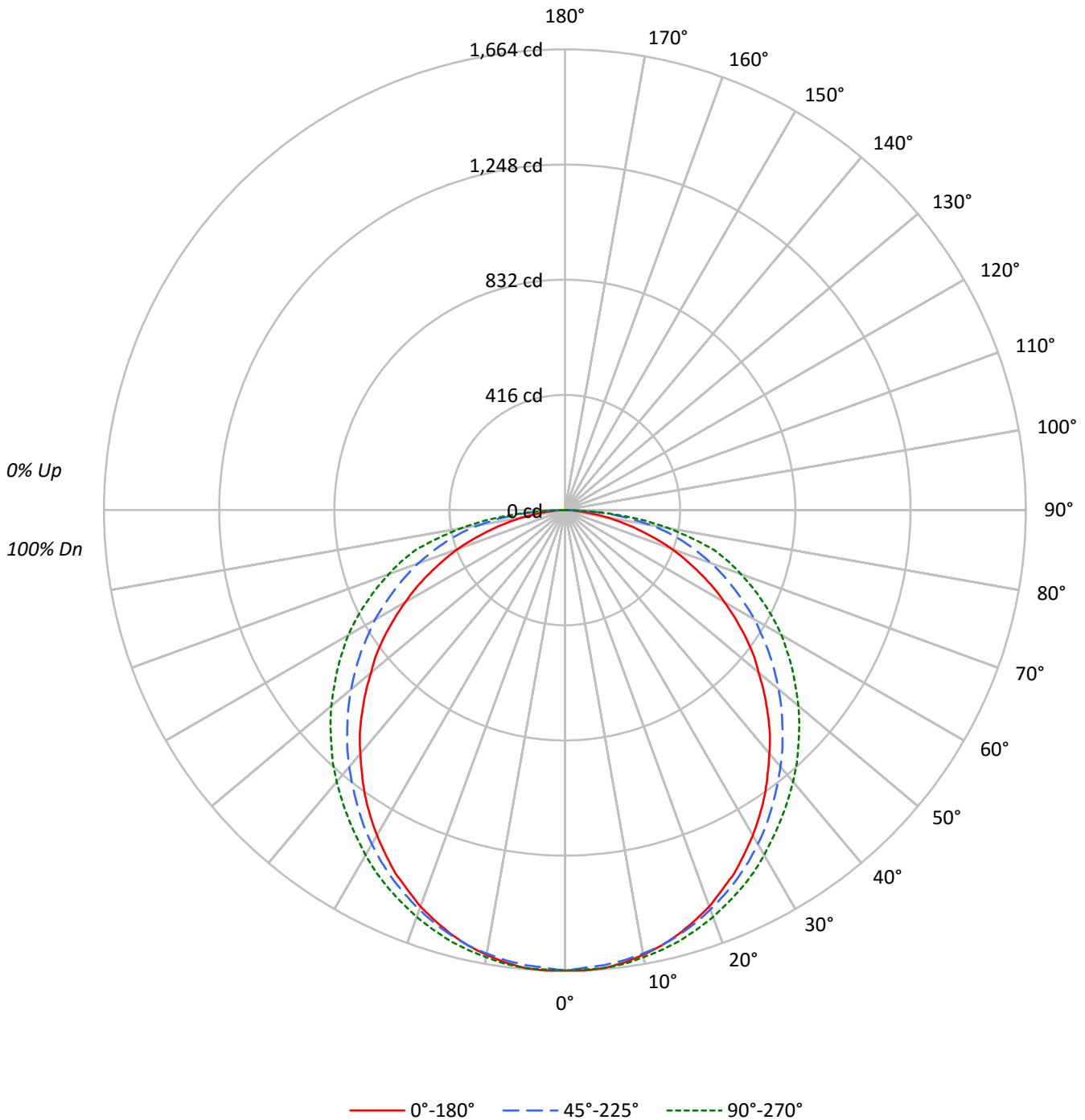
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2237	2237	2237
5°	2241	2228	2241
10°	2228	2222	2240
15°	2209	2214	2242
20°	2182	2199	2240
25°	2148	2183	2238
30°	2108	2165	2235
35°	2066	2143	2237
40°	2018	2127	2251
45°	1970	2114	2269
50°	1912	2108	2304
55°	1864	2111	2350
60°	1792	2129	2431
65°	1710	2152	2519
70°	1619	2218	2659
75°	1444	2313	2904
80°	1231	2450	2968
85°	878	2427	2841



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.4	3.1
10°-20°	450.0	8.9
20°-30°	679.6	13.5
30°-40°	819.1	16.2
40°-50°	859.9	17.1
50°-60°	804.5	16.0
60°-70°	664.4	13.2
70°-80°	452.7	9.0
80°-90°	154.4	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°	1287.0	25.5
0°-40°	2106.1	41.8
0°-60°	3770.5	74.8
0°-90°	5042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5042.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1663	1663	1663	1663	1663	
5°	1660	1658	1649	1660	1660	157
15°	1586	1588	1589	1606	1609	447
25°	1447	1454	1470	1499	1507	666
35°	1258	1271	1305	1348	1362	786
45°	1036	1057	1111	1171	1193	799
55°	795	826	900	974	1002	709
65°	537	582	676	761	791	533
75°	278	341	445	529	559	296
85°	57	112	157	177	184	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1662.8	1662.8	1662.8	1662.8	1662.8
2.5°	1664.5	1662.8	1654.4	1662.8	1661.1
5°	1659.5	1657.8	1649.4	1659.5	1659.5
7.5°	1647.8	1647.8	1639.4	1651.1	1652.8
10°	1631.0	1631.0	1626.0	1639.4	1639.4
12.5°	1610.9	1610.9	1610.9	1624.3	1626.0
15°	1585.9	1587.5	1589.2	1605.9	1609.3
17.5°	1555.7	1559.1	1564.1	1584.2	1587.5
20°	1524.0	1527.3	1535.7	1559.1	1564.1
22.5°	1483.8	1492.2	1503.9	1530.7	1535.7
25°	1447.0	1453.7	1470.4	1498.9	1507.2
27.5°	1401.8	1411.9	1433.6	1463.7	1475.4
30°	1356.7	1366.7	1393.5	1428.6	1438.6
32.5°	1308.2	1323.2	1351.7	1388.5	1400.2
35°	1258.0	1271.4	1304.8	1348.3	1361.7
37.5°	1202.8	1221.2	1258.0	1304.8	1321.5
40°	1149.2	1169.3	1211.1	1261.3	1281.4
42.5°	1095.7	1115.8	1162.6	1219.5	1239.6
45°	1035.5	1057.2	1110.8	1171.0	1192.7
47.5°	975.3	1002.0	1060.6	1124.2	1147.6
50°	913.4	943.5	1007.1	1074.0	1100.7
52.5°	858.2	886.6	953.5	1025.5	1050.5
55°	794.6	826.4	900.0	973.6	1002.0
57.5°	729.4	764.5	843.1	923.4	951.8
60°	665.8	704.3	791.3	871.6	903.3
62.5°	603.9	642.4	732.7	816.3	848.1
65°	537.0	582.1	675.8	761.1	791.3
67.5°	473.4	521.9	620.6	704.3	734.4
70°	411.5	458.4	563.7	645.7	675.8
72.5°	344.6	398.1	503.5	588.8	620.6
75°	277.7	341.3	445.0	528.6	558.7
77.5°	215.8	281.0	384.8	453.3	468.4
80°	158.9	225.8	316.2	364.7	383.1
82.5°	102.0	169.0	240.9	276.0	291.1
85°	56.9	112.1	157.2	177.3	184.0
87.5°	23.4	48.5	63.6	71.9	71.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)