

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: P309732

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-5700K**

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: P309732
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-L82765-HRP-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 5098.0 lumens
Efficiency: N/A
Efficacy: 86.0 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

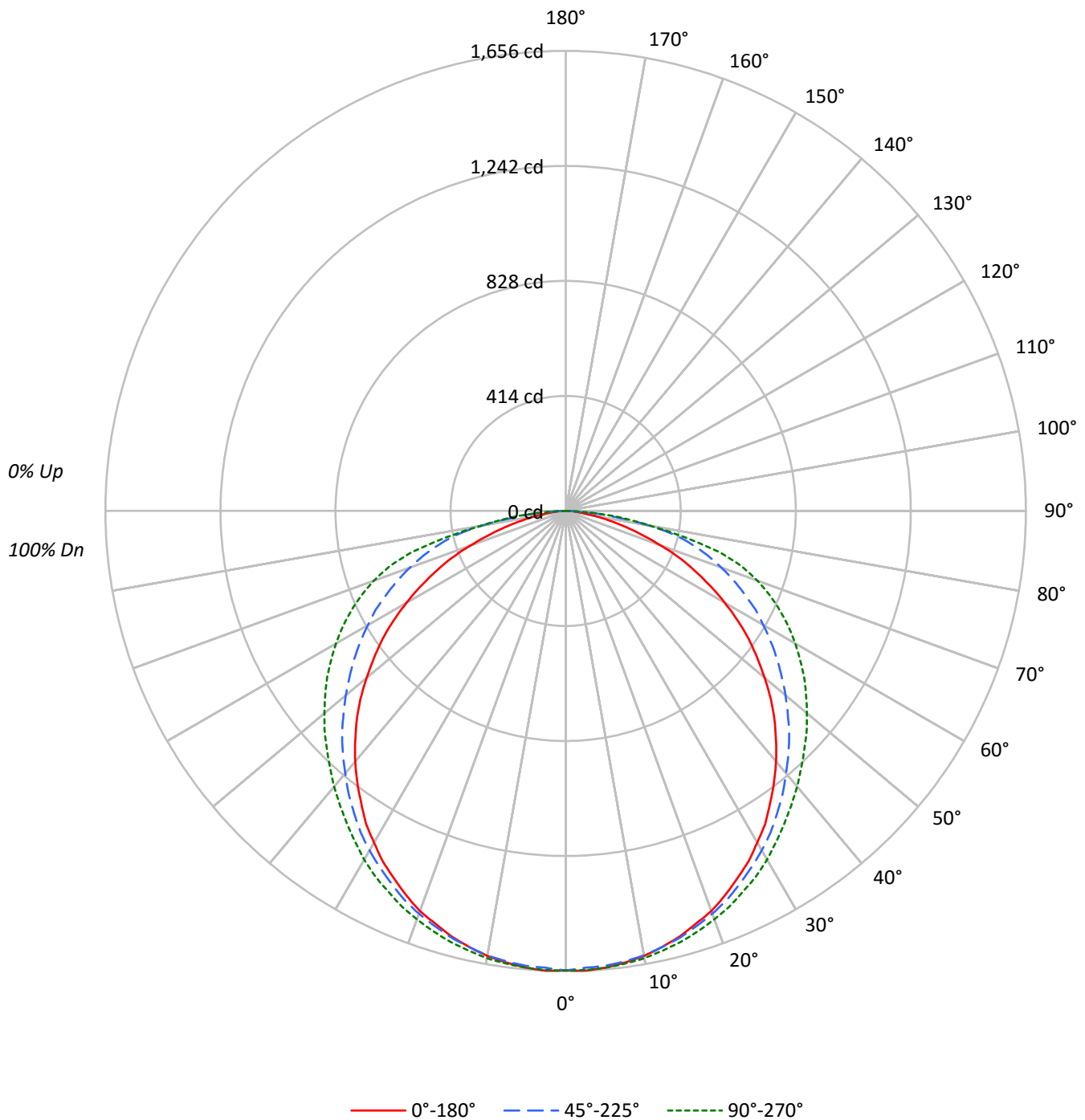
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2226	2226	2226
5°	2228	2220	2228
10°	2222	2219	2234
15°	2209	2215	2236
20°	2194	2209	2240
25°	2167	2199	2243
30°	2142	2192	2252
35°	2107	2180	2254
40°	2069	2167	2275
45°	2022	2165	2311
50°	1957	2162	2372
55°	1887	2178	2458
60°	1780	2211	2567
65°	1644	2263	2711
70°	1436	2343	2888
75°	1165	2463	2985
80°	860	2414	2414
85°	659	1778	2010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.7	3.1
10°-20°	450.0	8.8
20°-30°	685.0	13.4
30°-40°	831.7	16.3
40°-50°	878.8	17.2
50°-60°	829.2	16.3
60°-70°	689.4	13.5
70°-80°	453.6	8.9
80°-90°	123.6	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°	1291.7	25.3
0°-40°	2123.4	41.7
0°-60°	3831.3	75.2
0°-90°	5098.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5098.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1654	1654	1654	1654	1654	
5°	1650	1650	1643	1650	1650	157
15°	1586	1588	1590	1605	1605	447
25°	1460	1468	1481	1507	1511	673
35°	1283	1298	1328	1362	1372	803
45°	1063	1084	1138	1193	1214	819
55°	805	839	928	1016	1048	717
65°	516	576	711	815	852	511
75°	224	326	474	561	574	241
85°	43	94	115	128	130	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.1	1654.1	1654.1	1654.1	1654.1
2.5°	1656.2	1654.1	1645.5	1654.1	1654.1
5°	1649.8	1649.8	1643.4	1649.8	1649.8
7.5°	1639.1	1639.1	1634.8	1643.4	1643.4
10°	1626.3	1626.3	1624.2	1634.8	1634.8
12.5°	1607.1	1609.2	1607.1	1619.9	1619.9
15°	1585.8	1587.9	1590.0	1605.0	1605.0
17.5°	1558.0	1562.3	1566.5	1583.6	1585.8
20°	1532.4	1534.5	1543.1	1562.3	1564.4
22.5°	1498.2	1504.7	1515.3	1534.5	1540.9
25°	1459.8	1468.4	1481.2	1506.8	1511.1
27.5°	1423.6	1430.0	1447.0	1474.8	1483.3
30°	1378.7	1389.4	1410.7	1438.5	1449.2
32.5°	1336.0	1346.7	1372.3	1402.2	1410.7
35°	1282.7	1297.6	1327.5	1361.7	1372.3
37.5°	1231.5	1246.4	1282.7	1321.1	1333.9
40°	1178.1	1195.2	1233.6	1278.4	1295.5
42.5°	1120.5	1144.0	1186.6	1235.7	1254.9
45°	1062.9	1084.2	1137.6	1193.1	1214.4
47.5°	1001.0	1026.6	1084.2	1150.4	1176.0
50°	934.8	966.8	1033.0	1105.5	1133.3
52.5°	868.6	904.9	979.6	1060.7	1090.6
55°	804.6	838.8	928.4	1015.9	1047.9
57.5°	734.2	776.9	875.0	969.0	1001.0
60°	661.6	708.6	821.7	919.9	954.0
62.5°	589.1	642.4	770.5	868.6	904.9
65°	516.5	576.2	710.7	815.3	851.6
67.5°	446.1	512.2	655.2	759.8	796.1
70°	365.0	448.2	595.5	697.9	734.2
72.5°	290.3	386.3	537.8	633.9	665.9
75°	224.1	326.5	473.8	561.3	574.1
77.5°	164.3	266.8	407.6	437.5	439.7
80°	111.0	213.4	311.6	307.3	311.6
82.5°	72.6	160.1	196.4	219.8	222.0
85°	42.7	93.9	115.2	128.1	130.2
87.5°	21.3	32.0	40.6	42.7	47.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)