

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: P309766

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-5000K**

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: P309766
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5000K 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: 4673.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

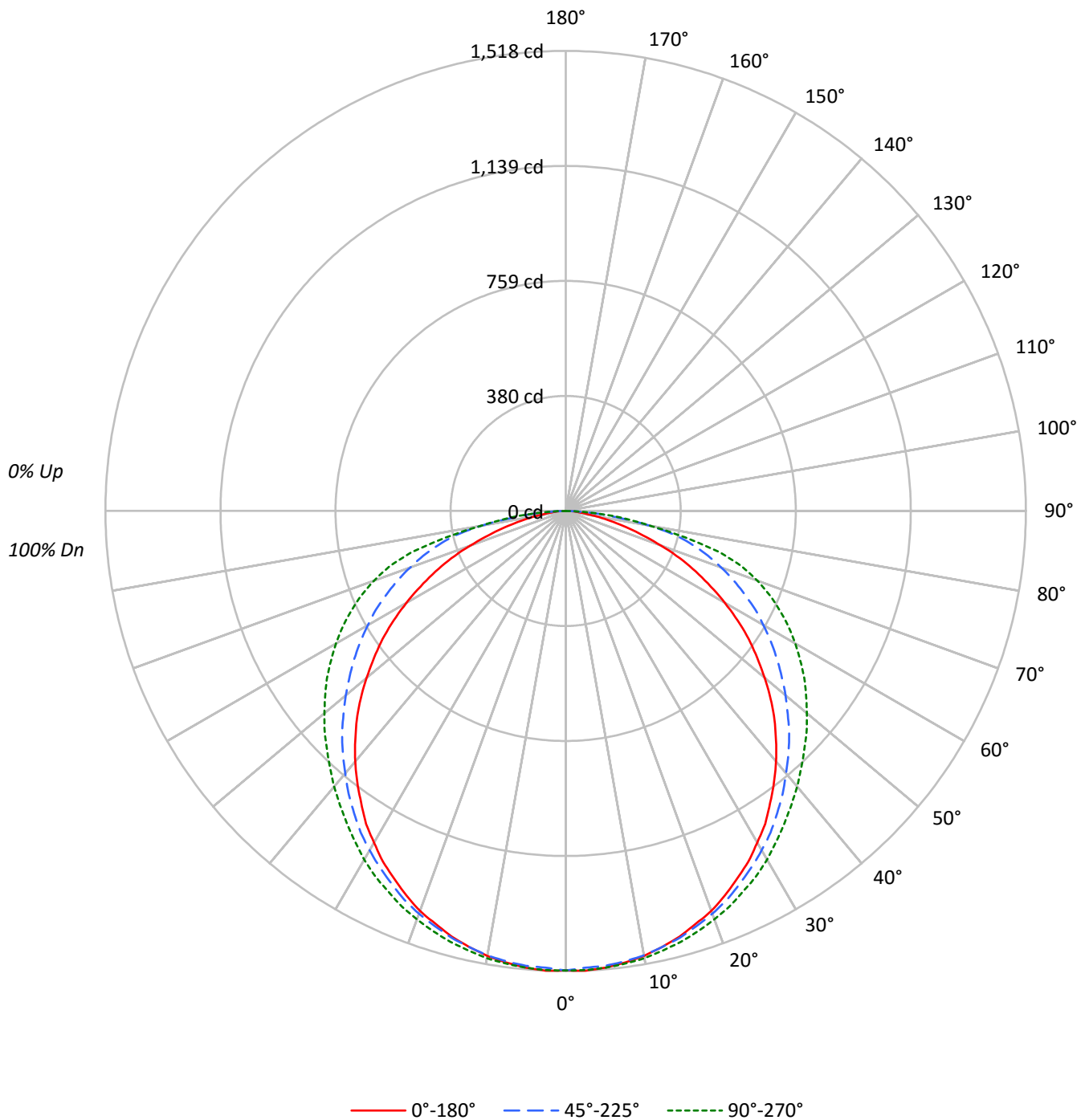
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2040	2040	2040
5°	2042	2035	2042
10°	2037	2034	2047
15°	2025	2030	2049
20°	2011	2025	2053
25°	1987	2016	2056
30°	1963	2009	2064
35°	1931	1999	2066
40°	1897	1986	2086
45°	1854	1984	2118
50°	1794	1982	2174
55°	1730	1996	2253
60°	1632	2027	2353
65°	1507	2074	2485
70°	1316	2147	2648
75°	1068	2258	2736
80°	788	2213	2213
85°	604	1630	1842



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.6	3.1
10°-20°	412.4	8.8
20°-30°	627.9	13.4
30°-40°	762.4	16.3
40°-50°	805.5	17.2
50°-60°	760.1	16.3
60°-70°	632.0	13.5
70°-80°	415.8	8.9
80°-90°	113.3	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°	1184.0	25.3
0°-40°	1946.4	41.7
0°-60°	3511.9	75.2
0°-90°	4673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4673.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1516	1516	1516	1516	1516	
5°	1512	1512	1506	1512	1512	144
15°	1454	1456	1458	1471	1471	410
25°	1338	1346	1358	1381	1385	617
35°	1176	1190	1217	1248	1258	736
45°	974	994	1043	1094	1113	750
55°	738	769	851	931	961	657
65°	473	528	652	747	781	468
75°	205	299	434	514	526	221
85°	39	86	106	117	119	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1516.2	1516.2	1516.2	1516.2	1516.2
2.5°	1518.1	1516.2	1508.3	1516.2	1516.2
5°	1512.2	1512.2	1506.4	1512.2	1512.2
7.5°	1502.5	1502.5	1498.6	1506.4	1506.4
10°	1490.7	1490.7	1488.8	1498.6	1498.6
12.5°	1473.1	1475.1	1473.1	1484.9	1484.9
15°	1453.6	1455.5	1457.5	1471.2	1471.2
17.5°	1428.1	1432.0	1435.9	1451.6	1453.6
20°	1404.6	1406.6	1414.4	1432.0	1434.0
22.5°	1373.3	1379.2	1389.0	1406.6	1412.5
25°	1338.1	1346.0	1357.7	1381.2	1385.1
27.5°	1304.9	1310.7	1326.4	1351.8	1359.7
30°	1263.8	1273.6	1293.1	1318.6	1328.4
32.5°	1224.7	1234.4	1257.9	1285.3	1293.1
35°	1175.8	1189.5	1216.8	1248.1	1257.9
37.5°	1128.8	1142.5	1175.8	1211.0	1222.7
40°	1079.9	1095.5	1130.8	1171.8	1187.5
42.5°	1027.1	1048.6	1087.7	1132.7	1150.3
45°	974.3	993.8	1042.7	1093.6	1113.2
47.5°	917.5	941.0	993.8	1054.5	1077.9
50°	856.9	886.2	946.9	1013.4	1038.8
52.5°	796.2	829.5	898.0	972.3	999.7
55°	737.5	768.8	851.0	931.2	960.6
57.5°	673.0	712.1	802.1	888.2	917.5
60°	606.5	649.5	753.2	843.2	874.5
62.5°	539.9	588.9	706.2	796.2	829.5
65°	473.4	528.2	651.5	747.3	780.6
67.5°	408.9	469.5	600.6	696.5	729.7
70°	334.5	410.8	545.8	639.7	673.0
72.5°	266.1	354.1	493.0	581.0	610.4
75°	205.4	299.3	434.3	514.5	526.3
77.5°	150.6	244.5	373.7	401.0	403.0
80°	101.7	195.6	285.6	281.7	285.6
82.5°	66.5	146.7	180.0	201.5	203.5
85°	39.1	86.1	105.6	117.4	119.3
87.5°	19.6	29.3	37.2	39.1	43.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)