

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: P309768

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-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: P309768
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-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB 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: 4732.0 lumens
Efficiency: N/A
Efficacy: 79.8 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

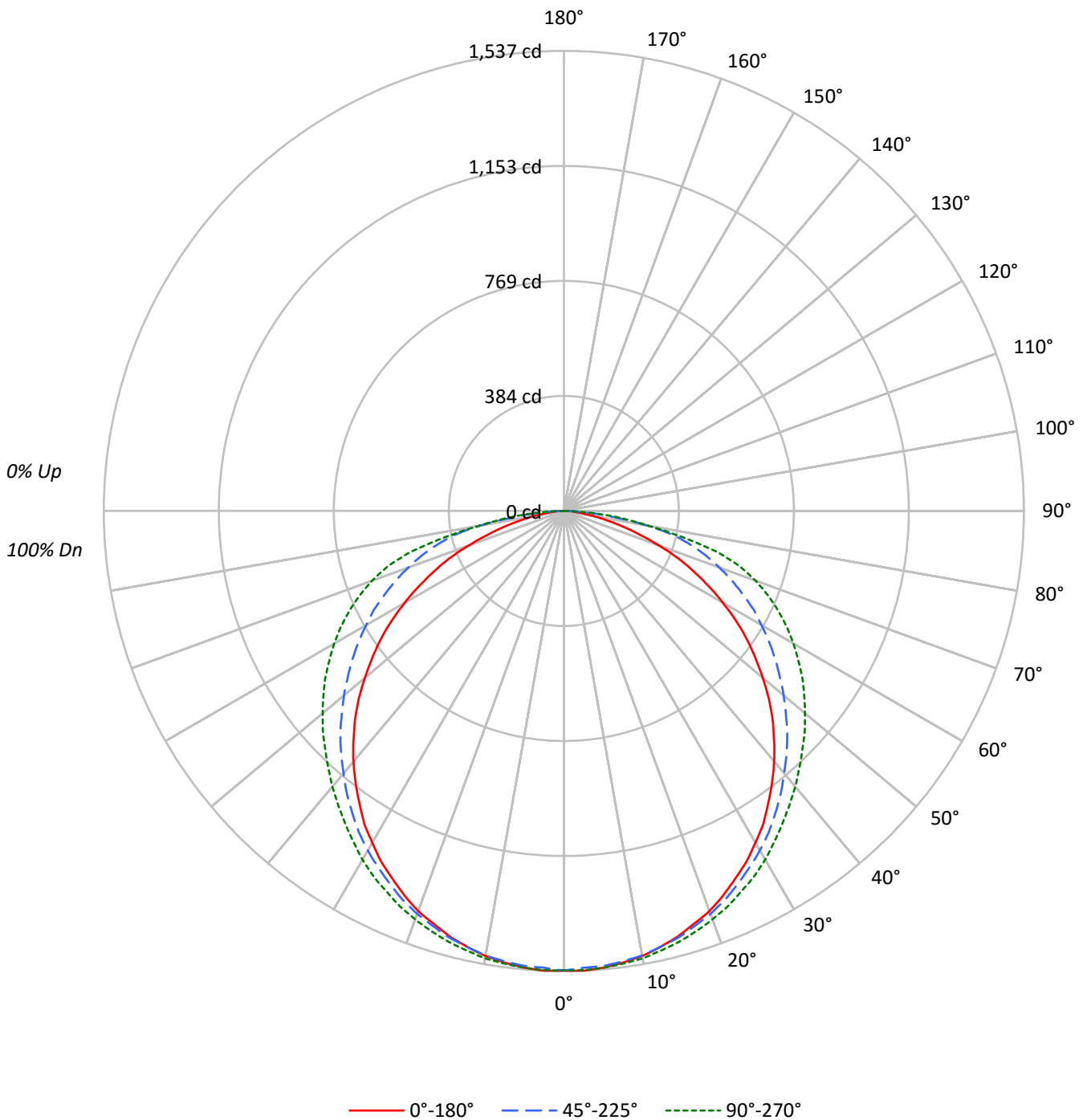
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2066	2066	2066
5°	2068	2060	2068
10°	2062	2060	2073
15°	2050	2056	2075
20°	2037	2051	2079
25°	2012	2041	2082
30°	1988	2034	2090
35°	1956	2024	2092
40°	1921	2011	2112
45°	1877	2009	2145
50°	1816	2007	2202
55°	1752	2021	2282
60°	1653	2052	2383
65°	1526	2100	2516
70°	1333	2174	2681
75°	1081	2286	2770
80°	798	2241	2241
85°	611	1652	1865



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.4	3.1
10°-20°	417.7	8.8
20°-30°	635.8	13.4
30°-40°	772.0	16.3
40°-50°	815.7	17.2
50°-60°	769.7	16.3
60°-70°	639.9	13.5
70°-80°	421.0	8.9
80°-90°	114.8	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°	1198.9	25.3
0°-40°	1971.0	41.7
0°-60°	3556.3	75.2
0°-90°	4732.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4732.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1535	1535	1535	1535	1535	
5°	1531	1531	1525	1531	1531	145
15°	1472	1474	1476	1490	1490	415
25°	1355	1363	1375	1399	1403	625
35°	1191	1204	1232	1264	1274	745
45°	987	1006	1056	1107	1127	760
55°	747	778	862	943	973	665
65°	479	535	660	757	790	474
75°	208	303	440	521	533	224
85°	40	87	107	119	121	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1535.3	1535.3	1535.3	1535.3	1535.3
2.5°	1537.3	1535.3	1527.4	1535.3	1535.3
5°	1531.3	1531.3	1525.4	1531.3	1531.3
7.5°	1521.4	1521.4	1517.5	1525.4	1525.4
10°	1509.5	1509.5	1507.6	1517.5	1517.5
12.5°	1491.7	1493.7	1491.7	1503.6	1503.6
15°	1471.9	1473.9	1475.9	1489.7	1489.7
17.5°	1446.2	1450.1	1454.1	1469.9	1471.9
20°	1422.4	1424.4	1432.3	1450.1	1452.1
22.5°	1390.7	1396.6	1406.5	1424.4	1430.3
25°	1355.0	1363.0	1374.8	1398.6	1402.6
27.5°	1321.3	1327.3	1343.1	1368.9	1376.8
30°	1279.7	1289.7	1309.5	1335.2	1345.1
32.5°	1240.1	1250.0	1273.8	1301.5	1309.5
35°	1190.6	1204.5	1232.2	1263.9	1273.8
37.5°	1143.1	1156.9	1190.6	1226.3	1238.1
40°	1093.5	1109.4	1145.0	1186.6	1202.5
42.5°	1040.0	1061.8	1101.5	1147.0	1164.8
45°	986.6	1006.4	1055.9	1107.4	1127.2
47.5°	929.1	952.9	1006.4	1067.8	1091.5
50°	867.7	897.4	958.8	1026.2	1051.9
52.5°	806.3	840.0	909.3	984.6	1012.3
55°	746.8	778.5	861.7	943.0	972.7
57.5°	681.5	721.1	812.2	899.4	929.1
60°	614.1	657.7	762.7	853.8	885.5
62.5°	546.8	596.3	715.2	806.3	840.0
65°	479.4	534.9	659.7	756.8	790.4
67.5°	414.0	475.4	608.2	705.2	738.9
70°	338.8	416.0	552.7	647.8	681.5
72.5°	269.4	358.6	499.2	588.4	618.1
75°	208.0	303.1	439.8	521.0	532.9
77.5°	152.5	247.6	378.4	406.1	408.1
80°	103.0	198.1	289.2	285.3	289.2
82.5°	67.4	148.6	182.3	204.0	206.0
85°	39.6	87.2	107.0	118.9	120.8
87.5°	19.8	29.7	37.6	39.6	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)