

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: P310444

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP250-W2A-U-6500K**

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: P310444
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 6500K 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: 4206.0 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

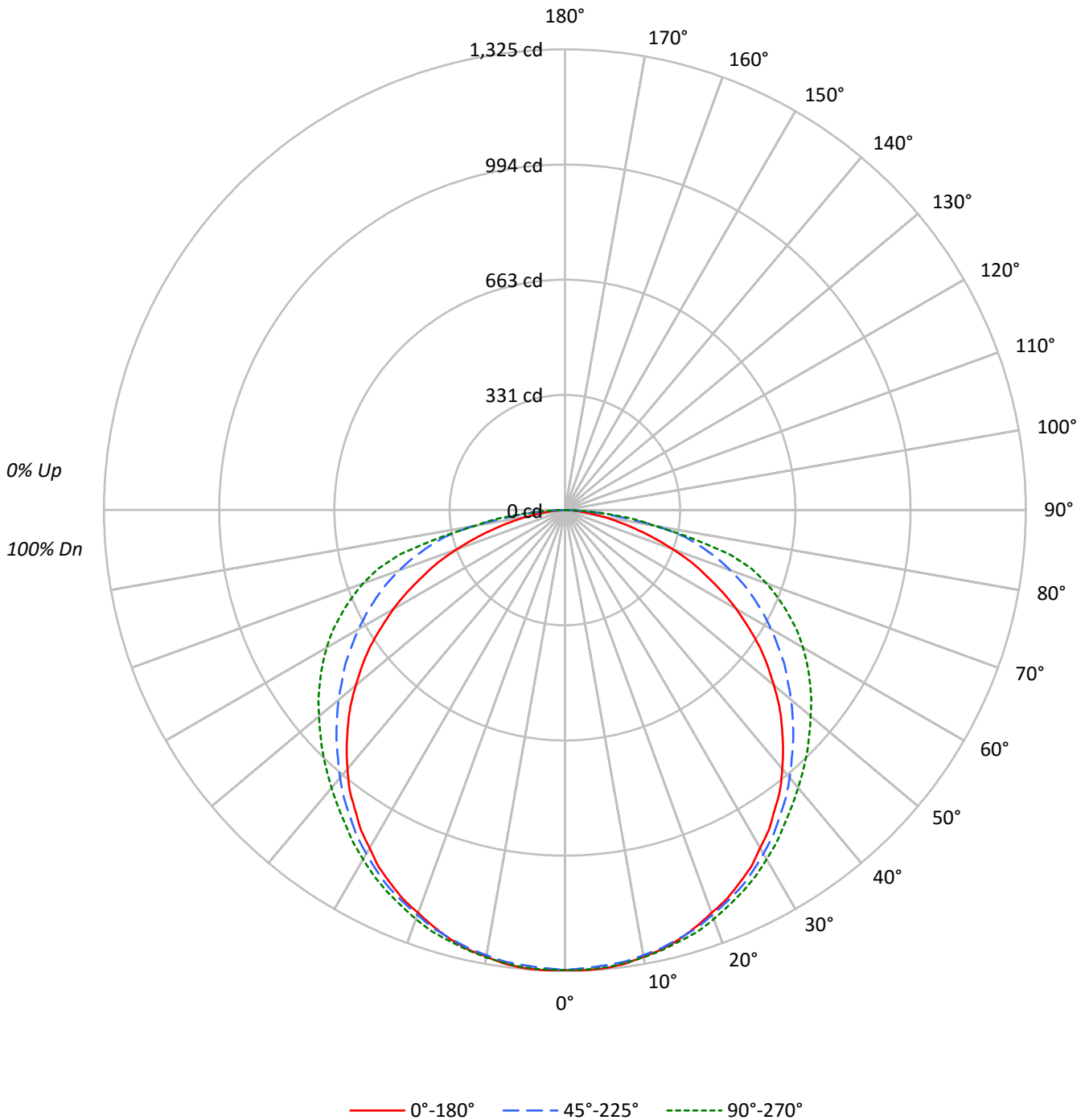
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1780	1780	1780
5°	1786	1775	1784
10°	1781	1776	1784
15°	1779	1776	1787
20°	1765	1774	1792
25°	1759	1778	1796
30°	1744	1773	1802
35°	1727	1768	1809
40°	1708	1766	1832
45°	1679	1767	1874
50°	1642	1777	1930
55°	1600	1806	2016
60°	1533	1841	2128
65°	1435	1906	2258
70°	1305	1995	2429
75°	1106	2104	2538
80°	873	2118	2053
85°	644	1610	1803



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.5	3.0
10°-20°	361.1	8.6
20°-30°	552.2	13.1
30°-40°	675.1	16.0
40°-50°	719.5	17.1
50°-60°	687.9	16.4
60°-70°	582.7	13.9
70°-80°	391.7	9.3
80°-90°	110.5	2.6
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°	1038.8	24.7
0°-40°	1713.8	40.7
0°-60°	3121.2	74.2
0°-90°	4206.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4206.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1323	1323	1323	1323	1323	
5°	1323	1321	1314	1321	1321	126
15°	1277	1277	1275	1285	1283	360
25°	1185	1189	1198	1208	1210	546
35°	1052	1060	1076	1097	1102	659
45°	882	897	928	968	985	681
55°	682	707	770	830	860	608
65°	451	496	599	678	709	447
75°	213	290	405	474	488	228
85°	42	86	104	113	117	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1322.7	1322.7	1322.7	1322.7	1322.7
2.5°	1324.8	1324.8	1318.5	1322.7	1322.7
5°	1322.7	1320.6	1314.3	1320.6	1320.6
7.5°	1316.4	1314.3	1310.1	1316.4	1314.3
10°	1303.9	1303.9	1299.7	1306.0	1306.0
12.5°	1293.5	1291.4	1289.3	1297.6	1295.5
15°	1276.8	1276.8	1274.7	1285.1	1283.0
17.5°	1255.9	1258.0	1260.1	1268.4	1270.5
20°	1233.0	1237.1	1239.2	1251.7	1251.7
22.5°	1212.1	1214.2	1218.4	1230.9	1230.9
25°	1185.0	1189.1	1197.5	1207.9	1210.0
27.5°	1157.9	1159.9	1170.4	1185.0	1187.1
30°	1122.4	1128.6	1141.2	1157.9	1159.9
32.5°	1091.1	1097.4	1112.0	1128.6	1132.8
35°	1051.5	1059.8	1076.5	1097.4	1101.5
37.5°	1016.0	1022.3	1043.1	1066.1	1072.3
40°	972.2	984.7	1005.6	1032.7	1043.1
42.5°	928.4	940.9	965.9	1001.4	1013.9
45°	882.5	897.1	928.4	968.0	984.7
47.5°	836.6	853.3	888.7	934.6	953.4
50°	784.4	805.3	849.1	901.2	922.1
52.5°	734.4	759.4	807.4	865.8	892.9
55°	682.2	707.2	769.8	830.3	859.5
57.5°	623.8	657.2	726.0	794.9	826.1
60°	569.5	600.8	684.3	759.4	790.7
62.5°	511.1	552.8	642.6	721.8	753.1
65°	450.6	496.5	598.7	678.0	709.3
67.5°	396.4	446.5	554.9	634.2	665.5
70°	331.7	394.3	507.0	586.2	617.5
72.5°	271.2	340.1	456.9	534.1	563.3
75°	212.8	290.0	404.7	473.6	488.2
77.5°	158.6	239.9	350.5	379.7	369.3
80°	112.7	191.9	273.3	258.7	265.0
82.5°	73.0	146.0	169.0	191.9	198.2
85°	41.7	85.5	104.3	112.7	116.8
87.5°	18.8	31.3	41.7	41.7	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)