

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: P310355

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-RDP-CA08-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: P310355
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: 24FCZ2-65HE-UNV-L82765-RDP-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" 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: 3688.0 lumens
Efficiency: N/A
Efficacy: 70.1 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

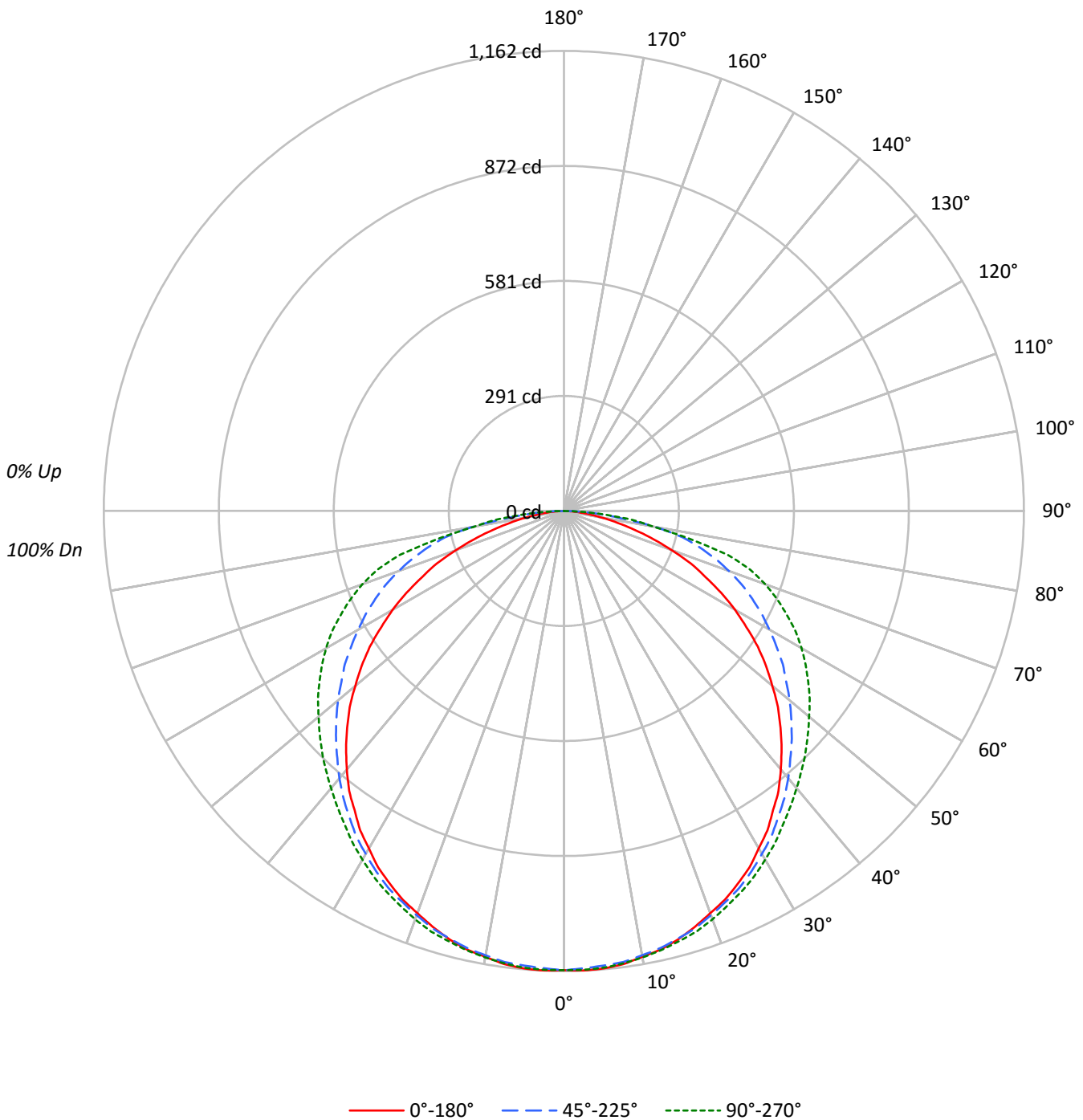
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1560	1560	1560
5°	1566	1557	1564
10°	1562	1557	1564
15°	1559	1557	1567
20°	1548	1556	1572
25°	1542	1559	1575
30°	1529	1555	1580
35°	1514	1550	1587
40°	1497	1549	1606
45°	1472	1549	1643
50°	1440	1558	1692
55°	1403	1583	1768
60°	1344	1615	1866
65°	1258	1671	1980
70°	1144	1749	2130
75°	970	1845	2226
80°	766	1857	1800
85°	565	1413	1581



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.0	3.0
10°-20°	316.6	8.6
20°-30°	484.2	13.1
30°-40°	591.9	16.0
40°-50°	630.8	17.1
50°-60°	603.2	16.4
60°-70°	511.0	13.9
70°-80°	343.4	9.3
80°-90°	96.9	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°	910.8	24.7
0°-40°	1502.7	40.7
0°-60°	2736.8	74.2
0°-90°	3688.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3688.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1160	1158	1152	1158	1158	110
15°	1120	1120	1118	1127	1125	316
25°	1039	1043	1050	1059	1061	479
35°	922	929	944	962	966	578
45°	774	787	814	849	863	597
55°	598	620	675	728	754	533
65°	395	435	525	594	622	392
75°	187	254	355	415	428	200
85°	37	75	92	99	102	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1159.8	1159.8	1159.8	1159.8	1159.8
2.5°	1161.6	1161.6	1156.1	1159.8	1159.8
5°	1159.8	1157.9	1152.5	1157.9	1157.9
7.5°	1154.3	1152.5	1148.8	1154.3	1152.5
10°	1143.3	1143.3	1139.6	1145.1	1145.1
12.5°	1134.2	1132.3	1130.5	1137.8	1136.0
15°	1119.5	1119.5	1117.7	1126.8	1125.0
17.5°	1101.2	1103.1	1104.9	1112.2	1114.0
20°	1081.1	1084.8	1086.6	1097.6	1097.6
22.5°	1062.8	1064.6	1068.3	1079.3	1079.3
25°	1039.0	1042.7	1050.0	1059.2	1061.0
27.5°	1015.3	1017.1	1026.2	1039.0	1040.9
30°	984.2	989.6	1000.6	1015.3	1017.1
32.5°	956.7	962.2	975.0	989.6	993.3
35°	922.0	929.3	943.9	962.2	965.9
37.5°	890.9	896.4	914.6	934.8	940.3
40°	852.4	863.4	881.7	905.5	914.6
42.5°	814.0	825.0	847.0	878.1	889.0
45°	773.8	786.6	814.0	848.8	863.4
47.5°	733.5	748.2	779.3	819.5	836.0
50°	687.8	706.1	744.5	790.3	808.5
52.5°	643.9	665.9	707.9	759.2	782.9
55°	598.2	620.1	675.0	728.1	753.7
57.5°	547.0	576.2	636.6	697.0	724.4
60°	499.4	526.8	600.0	665.9	693.3
62.5°	448.2	484.8	563.4	632.9	660.4
65°	395.1	435.4	525.0	594.5	622.0
67.5°	347.6	391.5	486.6	556.1	583.5
70°	290.9	345.7	444.5	514.0	541.5
72.5°	237.8	298.2	400.6	468.3	493.9
75°	186.6	254.3	354.9	415.2	428.1
77.5°	139.0	210.4	307.3	332.9	323.8
80°	98.8	168.3	239.6	226.8	232.3
82.5°	64.0	128.1	148.2	168.3	173.8
85°	36.6	75.0	91.5	98.8	102.4
87.5°	16.5	27.4	36.6	36.6	34.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)