

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: P311057

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP187-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: P311057
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 5130.0 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

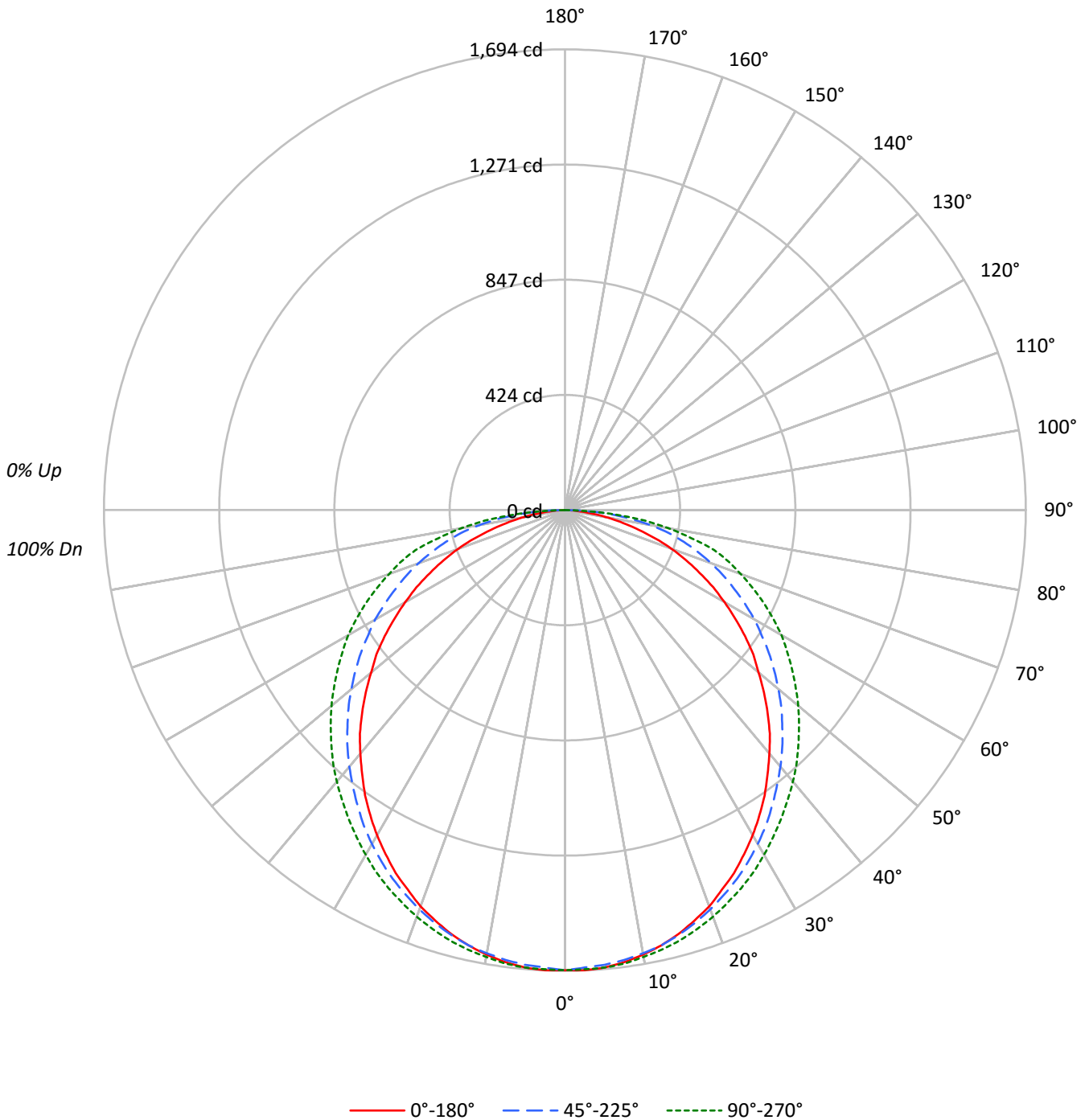
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2276	2276	2276
5°	2280	2267	2280
10°	2267	2260	2279
15°	2248	2252	2281
20°	2220	2237	2279
25°	2186	2221	2277
30°	2145	2203	2274
35°	2102	2181	2276
40°	2054	2164	2290
45°	2005	2151	2309
50°	1945	2145	2344
55°	1897	2148	2392
60°	1823	2167	2473
65°	1740	2189	2563
70°	1647	2257	2705
75°	1469	2353	2955
80°	1253	2493	3020
85°	894	2470	2890



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.1	3.1
10°-20°	457.8	8.9
20°-30°	691.5	13.5
30°-40°	833.4	16.2
40°-50°	874.9	17.1
50°-60°	818.6	16.0
60°-70°	676.0	13.2
70°-80°	460.6	9.0
80°-90°	157.1	3.1
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°	1309.4	25.5
0°-40°	2142.8	41.8
0°-60°	3836.3	74.8
0°-90°	5130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1692	1692	1692	1692	1692	
5°	1688	1687	1678	1688	1688	160
15°	1614	1615	1617	1634	1637	455
25°	1472	1479	1496	1525	1534	677
35°	1280	1294	1328	1372	1386	800
45°	1054	1076	1130	1191	1214	813
55°	808	841	916	991	1020	722
65°	546	592	688	774	805	542
75°	282	347	453	538	568	301
85°	58	114	160	180	187	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1691.8	1691.8	1691.8	1691.8	1691.8
2.5°	1693.5	1691.8	1683.3	1691.8	1690.1
5°	1688.4	1686.7	1678.2	1688.4	1688.4
7.5°	1676.5	1676.5	1668.0	1679.9	1681.6
10°	1659.5	1659.5	1654.4	1668.0	1668.0
12.5°	1639.1	1639.1	1639.1	1652.7	1654.4
15°	1613.5	1615.2	1616.9	1634.0	1637.4
17.5°	1582.9	1586.3	1591.4	1611.8	1615.2
20°	1550.6	1554.0	1562.5	1586.3	1591.4
22.5°	1509.7	1518.2	1530.1	1557.4	1562.5
25°	1472.3	1479.1	1496.1	1525.0	1533.5
27.5°	1426.3	1436.5	1458.6	1489.3	1501.2
30°	1380.4	1390.6	1417.8	1453.5	1463.8
32.5°	1331.0	1346.3	1375.2	1412.7	1424.6
35°	1279.9	1293.6	1327.6	1371.8	1385.5
37.5°	1223.8	1242.5	1279.9	1327.6	1344.6
40°	1169.3	1189.7	1232.3	1283.3	1303.8
42.5°	1114.8	1135.3	1182.9	1240.8	1261.2
45°	1053.6	1075.7	1130.2	1191.4	1213.6
47.5°	992.3	1019.5	1079.1	1143.8	1167.6
50°	929.3	960.0	1024.6	1092.7	1119.9
52.5°	873.1	902.1	970.2	1043.4	1068.9
55°	808.5	840.8	915.7	990.6	1019.5
57.5°	742.1	777.8	857.8	939.5	968.5
60°	677.4	716.6	805.1	886.8	919.1
62.5°	614.4	653.6	745.5	830.6	862.9
65°	546.4	592.3	687.6	774.4	805.1
67.5°	481.7	531.0	631.5	716.6	747.2
70°	418.7	466.4	573.6	657.0	687.6
72.5°	350.6	405.1	512.3	599.1	631.5
75°	282.5	347.2	452.7	537.8	568.5
77.5°	219.6	285.9	391.5	461.3	476.6
80°	161.7	229.8	321.7	371.0	389.8
82.5°	103.8	171.9	245.1	280.8	296.2
85°	57.9	114.0	160.0	180.4	187.2
87.5°	23.8	49.4	64.7	73.2	73.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)