

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: P311557

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP187-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: P311557  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-50HE-UNV-L82765-S-CP187-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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

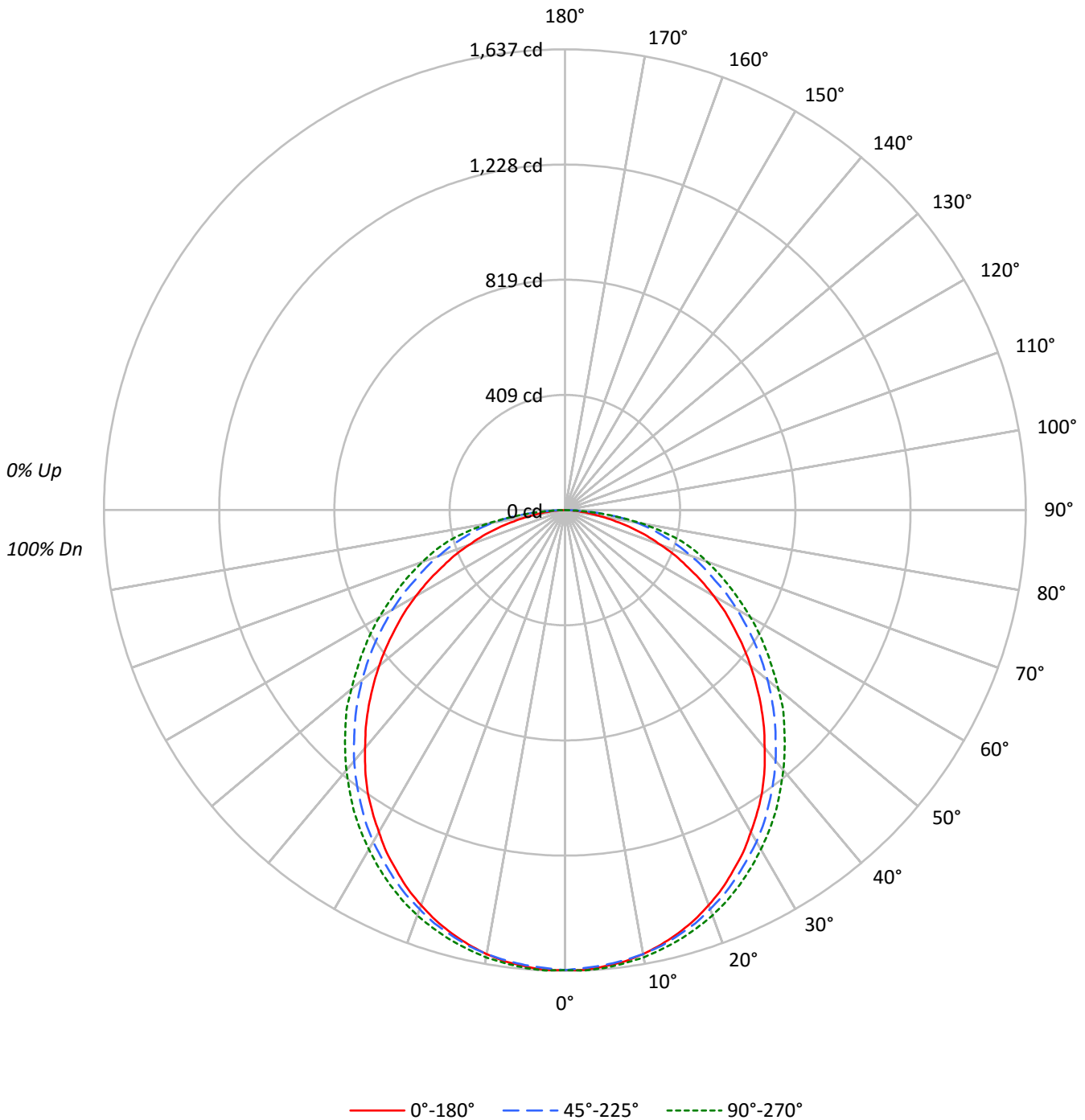
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4652.0 lumens  
Efficiency: N/A  
Efficacy: 118.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 39.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2199	2199	2199
5°	2197	2191	2205
10°	2188	2188	2205
15°	2167	2178	2200
20°	2139	2160	2194
25°	2099	2139	2181
30°	2052	2114	2163
35°	2007	2080	2145
40°	1939	2045	2120
45°	1875	2005	2097
50°	1803	1967	2072
55°	1723	1931	2052
60°	1642	1901	2048
65°	1538	1868	2060
70°	1424	1878	2116
75°	1275	1913	2235
80°	1031	2026	2187
85°	775	1780	1734



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.7	3.3
10°-20°	442.1	9.5
20°-30°	664.5	14.3
30°-40°	791.6	17.0
40°-50°	810.2	17.4
50°-60°	729.4	15.7
60°-70°	572.8	12.3
70°-80°	371.8	8.0
80°-90°	115.0	2.5
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°	1261.4	27.1
0°-40°	2052.9	44.1
0°-60°	3592.5	77.2
0°-90°	4652.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4652.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1634	1634	1634	1634	1634	
5°	1627	1630	1622	1631	1633	155
15°	1556	1560	1563	1577	1580	439
25°	1414	1426	1441	1464	1469	651
35°	1222	1237	1266	1297	1306	762
45°	986	1009	1054	1094	1102	760
55°	734	767	823	866	875	658
65°	483	520	587	635	647	481
75°	245	293	368	418	430	260
85°	50	93	115	112	112	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1634.3	1634.3	1634.3	1634.3	1634.3
2.5°	1635.8	1635.8	1628.4	1635.8	1637.2
5°	1626.9	1629.8	1622.5	1631.3	1632.8
7.5°	1618.0	1618.0	1613.6	1622.5	1623.9
10°	1601.8	1603.2	1601.8	1612.1	1613.6
12.5°	1581.1	1584.0	1585.5	1595.9	1597.3
15°	1556.0	1560.4	1563.4	1576.6	1579.6
17.5°	1527.9	1532.3	1539.7	1554.5	1557.4
20°	1493.9	1499.8	1508.7	1527.9	1532.3
22.5°	1457.0	1462.9	1477.6	1495.4	1502.8
25°	1414.1	1425.9	1440.7	1464.3	1468.8
27.5°	1371.3	1381.6	1400.8	1425.9	1431.8
30°	1321.0	1337.3	1360.9	1386.0	1391.9
32.5°	1272.3	1288.5	1316.6	1343.2	1350.6
35°	1222.0	1236.8	1266.3	1297.4	1306.2
37.5°	1164.4	1183.6	1216.1	1247.1	1256.0
40°	1103.8	1127.4	1164.4	1196.9	1207.2
42.5°	1046.2	1071.3	1108.2	1143.7	1155.5
45°	985.6	1009.2	1053.6	1093.5	1102.3
47.5°	923.5	950.1	997.4	1037.3	1052.1
50°	861.5	889.5	939.8	981.2	990.0
52.5°	799.4	829.0	882.2	926.5	930.9
55°	734.4	766.9	823.0	865.9	874.8
57.5°	675.3	703.4	763.9	808.3	818.6
60°	610.3	641.3	706.3	747.7	761.0
62.5°	548.2	580.7	648.7	690.1	701.9
65°	483.2	520.1	586.6	635.4	647.2
67.5°	427.0	462.5	533.4	580.7	592.5
70°	362.0	401.9	477.3	526.0	537.9
72.5°	305.9	347.2	422.6	469.9	487.6
75°	245.3	292.6	367.9	418.2	430.0
77.5°	186.2	240.9	317.7	356.1	356.1
80°	133.0	190.6	261.5	279.3	282.2
82.5°	87.2	143.3	193.6	192.1	192.1
85°	50.2	93.1	115.3	112.3	112.3
87.5°	19.2	38.4	41.4	41.4	39.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)