

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: P311562

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-3000K**

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: P311562
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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

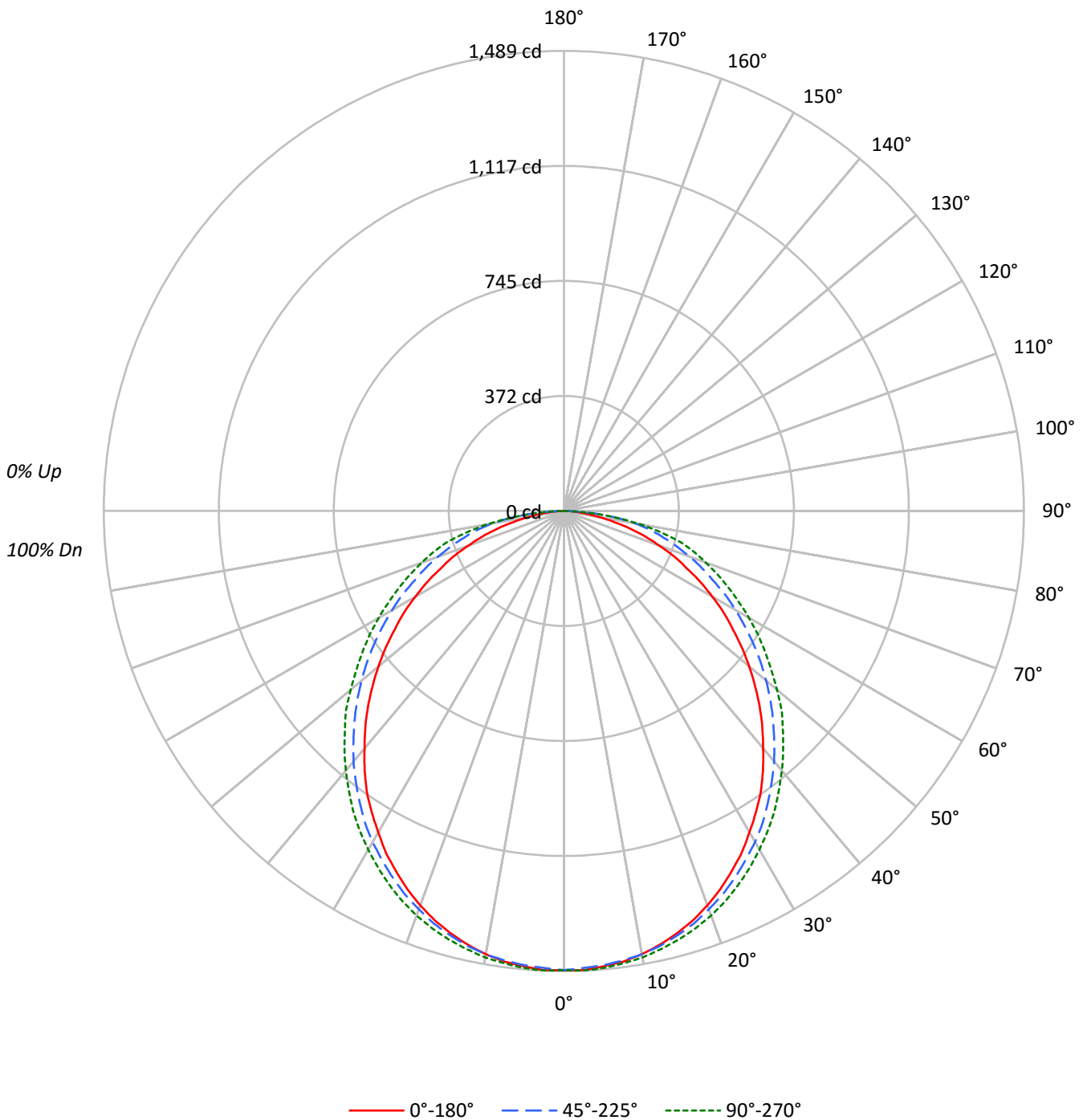
Lumens per Lamp: N/A
Luminaire Lumens: 4230.0 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
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	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°	1999	1999	1999
5°	1998	1993	2005
10°	1990	1990	2005
15°	1971	1980	2001
20°	1945	1964	1995
25°	1909	1945	1983
30°	1866	1923	1966
35°	1825	1891	1951
40°	1763	1860	1928
45°	1705	1823	1907
50°	1640	1789	1884
55°	1567	1756	1866
60°	1493	1728	1862
65°	1399	1698	1874
70°	1295	1707	1924
75°	1159	1739	2033
80°	937	1843	1988
85°	706	1618	1576



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.7	3.3
10°-20°	402.0	9.5
20°-30°	604.3	14.3
30°-40°	719.8	17.0
40°-50°	736.7	17.4
50°-60°	663.2	15.7
60°-70°	520.8	12.3
70°-80°	338.0	8.0
80°-90°	104.5	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°	1146.9	27.1
0°-40°	1866.7	44.1
0°-60°	3266.6	77.2
0°-90°	4230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1486	1486	1486	1486	1486	
5°	1479	1482	1475	1483	1485	141
15°	1415	1419	1422	1434	1436	399
25°	1286	1297	1310	1332	1336	592
35°	1111	1125	1152	1180	1188	693
45°	896	918	958	994	1002	691
55°	668	697	748	787	795	599
65°	439	473	533	578	588	437
75°	223	266	335	380	391	236
85°	46	85	105	102	102	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1486.0	1486.0	1486.0	1486.0	1486.0
2.5°	1487.4	1487.4	1480.7	1487.4	1488.7
5°	1479.3	1482.0	1475.3	1483.3	1484.7
7.5°	1471.2	1471.2	1467.2	1475.3	1476.6
10°	1456.5	1457.8	1456.5	1465.9	1467.2
12.5°	1437.7	1440.3	1441.7	1451.1	1452.4
15°	1414.8	1418.8	1421.5	1433.6	1436.3
17.5°	1389.3	1393.3	1400.0	1413.5	1416.2
20°	1358.4	1363.8	1371.8	1389.3	1393.3
22.5°	1324.8	1330.2	1343.6	1359.7	1366.4
25°	1285.8	1296.6	1310.0	1331.5	1335.5
27.5°	1246.9	1256.3	1273.7	1296.6	1302.0
30°	1201.2	1216.0	1237.5	1260.3	1265.7
32.5°	1156.8	1171.6	1197.2	1221.3	1228.1
35°	1111.2	1124.6	1151.5	1179.7	1187.7
37.5°	1058.8	1076.2	1105.8	1134.0	1142.1
40°	1003.7	1025.2	1058.8	1088.3	1097.7
42.5°	951.3	974.1	1007.7	1039.9	1050.7
45°	896.2	917.7	958.0	994.3	1002.3
47.5°	839.8	863.9	906.9	943.2	956.6
50°	783.3	808.8	854.5	892.2	900.2
52.5°	726.9	753.8	802.1	842.4	846.5
55°	667.8	697.3	748.4	787.4	795.4
57.5°	614.0	639.6	694.6	735.0	744.4
60°	554.9	583.1	642.2	679.9	692.0
62.5°	498.5	528.0	589.8	627.5	638.2
65°	439.4	472.9	533.4	577.7	588.5
67.5°	388.3	420.5	485.0	528.0	538.8
70°	329.2	365.5	434.0	478.3	489.1
72.5°	278.1	315.7	384.3	427.3	443.4
75°	223.0	266.0	334.6	380.2	391.0
77.5°	169.3	219.0	288.9	323.8	323.8
80°	120.9	173.3	237.8	253.9	256.6
82.5°	79.3	130.3	176.0	174.7	174.7
85°	45.7	84.6	104.8	102.1	102.1
87.5°	17.5	34.9	37.6	37.6	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)