

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: P310858

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CA08-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: P310858
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: 24FCZ2-50HE-UNV-L82765-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 4804.0 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

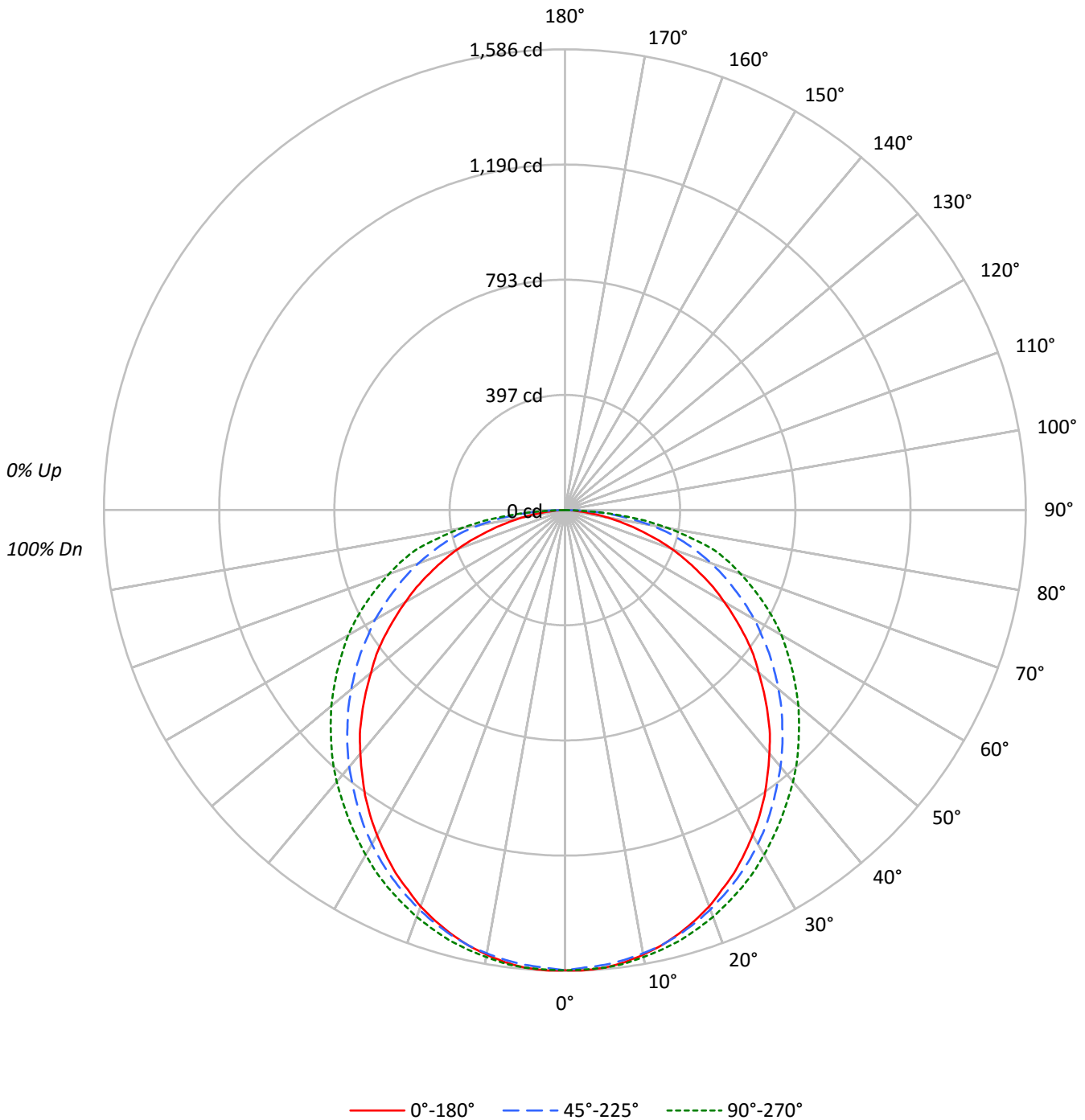
Input Watts (W): 40.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2132	2132	2132
5°	2135	2123	2135
10°	2123	2117	2134
15°	2105	2109	2136
20°	2079	2095	2134
25°	2047	2080	2132
30°	2008	2063	2130
35°	1969	2042	2131
40°	1923	2027	2144
45°	1877	2014	2162
50°	1822	2008	2195
55°	1776	2012	2240
60°	1707	2029	2316
65°	1629	2050	2400
70°	1543	2113	2533
75°	1376	2204	2768
80°	1173	2334	2828
85°	837	2313	2706



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	3.1
10°-20°	428.7	8.9
20°-30°	647.5	13.5
30°-40°	780.4	16.2
40°-50°	819.3	17.1
50°-60°	766.5	16.0
60°-70°	633.0	13.2
70°-80°	431.3	9.0
80°-90°	147.1	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°	1226.2	25.5
0°-40°	2006.7	41.8
0°-60°	3592.5	74.8
0°-90°	4804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4804.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1584	1584	1584	1584	1584	
5°	1581	1580	1572	1581	1581	150
15°	1511	1513	1514	1530	1533	426
25°	1379	1385	1401	1428	1436	634
35°	1199	1211	1243	1285	1297	749
45°	987	1007	1058	1116	1136	761
55°	757	787	858	928	955	676
65°	512	555	644	725	754	508
75°	265	325	424	504	532	282
85°	54	107	150	169	175	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1584.3	1584.3	1584.3	1584.3	1584.3
2.5°	1585.9	1584.3	1576.3	1584.3	1582.7
5°	1581.1	1579.5	1571.6	1581.1	1581.1
7.5°	1570.0	1570.0	1562.0	1573.2	1574.8
10°	1554.0	1554.0	1549.3	1562.0	1562.0
12.5°	1534.9	1534.9	1534.9	1547.7	1549.3
15°	1511.0	1512.6	1514.2	1530.1	1533.3
17.5°	1482.3	1485.5	1490.3	1509.4	1512.6
20°	1452.0	1455.2	1463.2	1485.5	1490.3
22.5°	1413.8	1421.7	1432.9	1458.4	1463.2
25°	1378.7	1385.1	1401.0	1428.1	1436.1
27.5°	1335.7	1345.2	1366.0	1394.6	1405.8
30°	1292.6	1302.2	1327.7	1361.2	1370.7
32.5°	1246.4	1260.8	1287.9	1322.9	1334.1
35°	1198.6	1211.3	1243.2	1284.7	1297.4
37.5°	1146.0	1163.5	1198.6	1243.2	1259.2
40°	1095.0	1114.1	1154.0	1201.8	1220.9
42.5°	1044.0	1063.1	1107.7	1161.9	1181.1
45°	986.6	1007.3	1058.3	1115.7	1136.4
47.5°	929.2	954.7	1010.5	1071.1	1093.4
50°	870.3	898.9	959.5	1023.3	1048.8
52.5°	817.7	844.8	908.5	977.0	1001.0
55°	757.1	787.4	857.5	927.6	954.7
57.5°	694.9	728.4	803.3	879.8	906.9
60°	634.4	671.0	753.9	830.4	860.7
62.5°	575.4	612.1	698.1	777.8	808.1
65°	511.6	554.7	643.9	725.2	753.9
67.5°	451.1	497.3	591.3	671.0	699.7
70°	392.1	436.7	537.1	615.2	643.9
72.5°	328.3	379.3	479.8	561.0	591.3
75°	264.6	325.2	424.0	503.7	532.4
77.5°	205.6	267.8	366.6	431.9	446.3
80°	151.4	215.2	301.2	347.5	365.0
82.5°	97.2	161.0	229.5	263.0	277.3
85°	54.2	106.8	149.8	169.0	175.3
87.5°	22.3	46.2	60.6	68.5	68.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)