

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: P310852

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CA08-W2A-U-3500K**

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: P310852
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 4488.0 lumens
Efficiency: N/A
Efficacy: 116.3 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

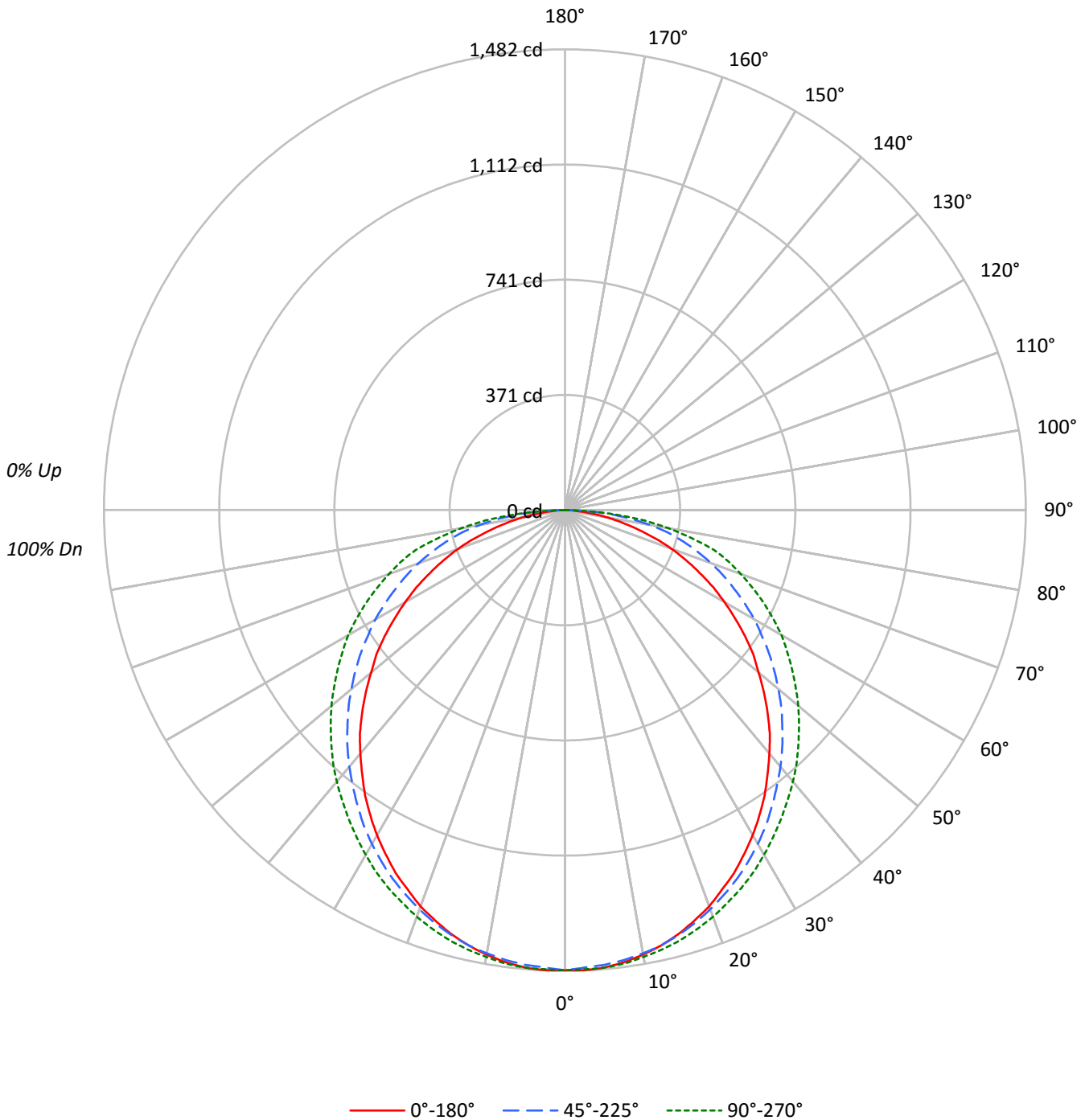
Input Watts (W): 38.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82					82			
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67					67			
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47					47			
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36					36			
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28					28			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1991	1991	1991
5°	1995	1983	1995
10°	1984	1977	1994
15°	1966	1970	1995
20°	1942	1957	1994
25°	1912	1943	1992
30°	1876	1927	1990
35°	1839	1908	1991
40°	1797	1894	2003
45°	1754	1881	2020
50°	1702	1876	2051
55°	1659	1879	2092
60°	1595	1895	2164
65°	1522	1915	2242
70°	1441	1974	2367
75°	1285	2059	2585
80°	1096	2180	2642
85°	781	2161	2529



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.1	3.1
10°-20°	400.5	8.9
20°-30°	605.0	13.5
30°-40°	729.1	16.2
40°-50°	765.4	17.1
50°-60°	716.1	16.0
60°-70°	591.4	13.2
70°-80°	403.0	9.0
80°-90°	137.4	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°	1145.6	25.5
0°-40°	1874.7	41.8
0°-60°	3356.2	74.8
0°-90°	4488.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4488.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1480	1480	1480	1480	1480	
5°	1477	1476	1468	1477	1477	140
15°	1412	1413	1415	1430	1432	398
25°	1288	1294	1309	1334	1342	593
35°	1120	1132	1161	1200	1212	700
45°	922	941	989	1042	1062	711
55°	707	736	801	867	892	631
65°	478	518	602	678	704	474
75°	247	304	396	470	497	264
85°	51	100	140	158	164	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1480.1	1480.1	1480.1	1480.1	1480.1
2.5°	1481.6	1480.1	1472.7	1480.1	1478.6
5°	1477.1	1475.6	1468.2	1477.1	1477.1
7.5°	1466.7	1466.7	1459.3	1469.7	1471.2
10°	1451.8	1451.8	1447.3	1459.3	1459.3
12.5°	1433.9	1433.9	1433.9	1445.9	1447.3
15°	1411.6	1413.1	1414.6	1429.5	1432.5
17.5°	1384.8	1387.8	1392.3	1410.1	1413.1
20°	1356.5	1359.5	1366.9	1387.8	1392.3
22.5°	1320.8	1328.2	1338.6	1362.5	1366.9
25°	1288.0	1294.0	1308.9	1334.2	1341.6
27.5°	1247.8	1256.7	1276.1	1302.9	1313.3
30°	1207.6	1216.5	1240.4	1271.6	1280.6
32.5°	1164.4	1177.8	1203.1	1235.9	1246.3
35°	1119.8	1131.7	1161.4	1200.2	1212.1
37.5°	1070.6	1087.0	1119.8	1161.4	1176.3
40°	1023.0	1040.8	1078.1	1122.7	1140.6
42.5°	975.3	993.2	1034.9	1085.5	1103.4
45°	921.7	941.1	988.7	1042.3	1061.7
47.5°	868.1	891.9	944.0	1000.6	1021.5
50°	813.0	839.8	896.4	956.0	979.8
52.5°	763.9	789.2	848.8	912.8	935.1
55°	707.3	735.6	801.1	866.6	891.9
57.5°	649.2	680.5	750.5	821.9	847.3
60°	592.6	626.9	704.3	775.8	804.1
62.5°	537.5	571.8	652.2	726.7	754.9
65°	478.0	518.2	601.6	677.5	704.3
67.5°	421.4	464.6	552.4	626.9	653.7
70°	366.3	408.0	501.8	574.8	601.6
72.5°	306.7	354.4	448.2	524.1	552.4
75°	247.2	303.8	396.1	470.5	497.3
77.5°	192.1	250.2	342.5	403.5	416.9
80°	141.5	201.0	281.4	324.6	341.0
82.5°	90.8	150.4	214.4	245.7	259.1
85°	50.6	99.8	140.0	157.8	163.8
87.5°	20.8	43.2	56.6	64.0	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)