

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: P314007

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-CP187-W2A-U-4000K**

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: P314007
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-L83050-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 4515.0 lumens
Efficiency: N/A
Efficacy: 114.9 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

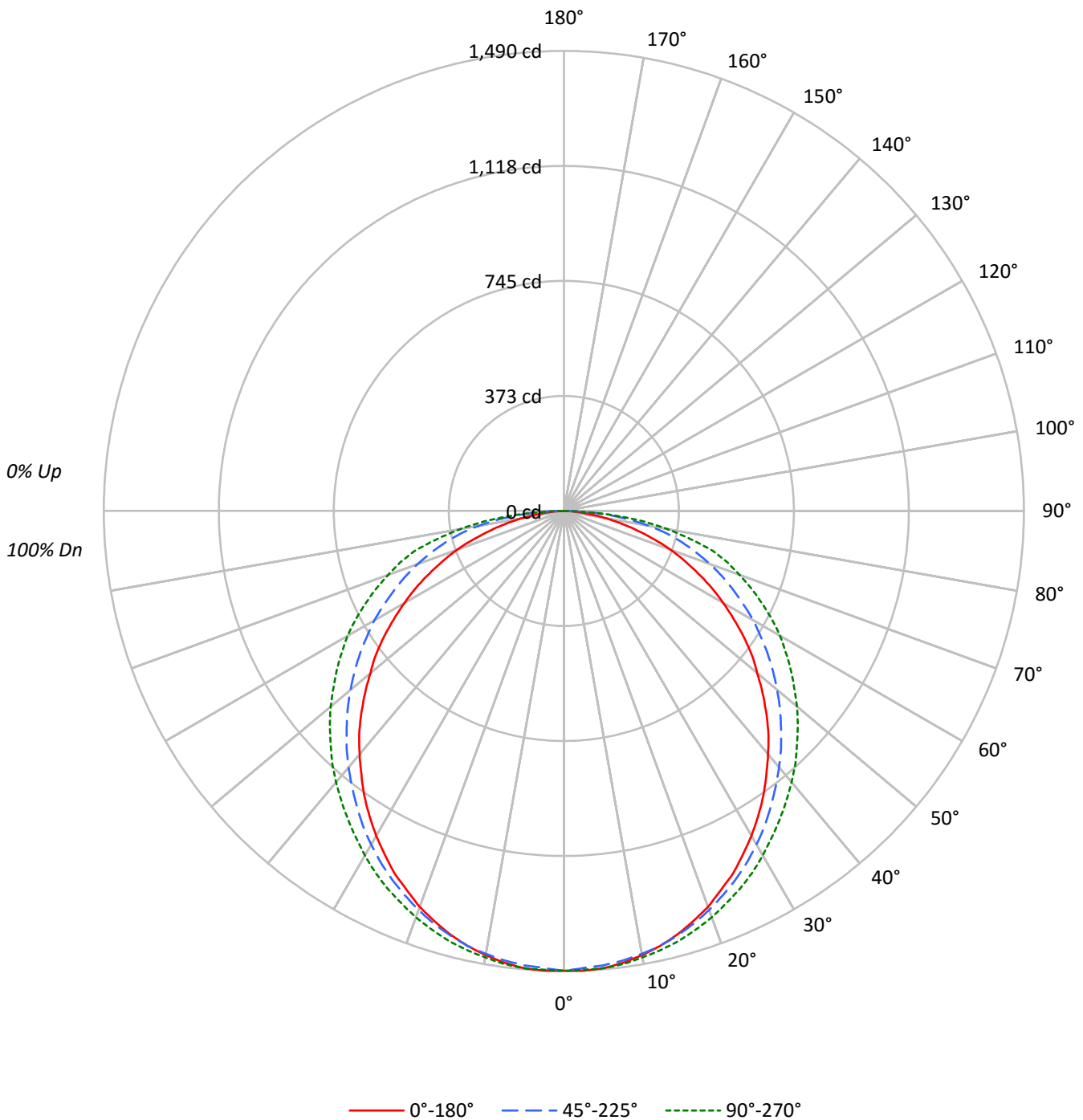
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2003	2003	2003
5°	2007	1995	2007
10°	1995	1989	2006
15°	1978	1982	2007
20°	1954	1969	2005
25°	1924	1955	2004
30°	1888	1939	2002
35°	1850	1919	2003
40°	1808	1905	2015
45°	1764	1893	2032
50°	1712	1888	2063
55°	1669	1890	2105
60°	1604	1907	2177
65°	1531	1927	2256
70°	1450	1986	2381
75°	1293	2072	2601
80°	1103	2194	2658
85°	786	2174	2544



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.9	3.1
10°-20°	402.9	8.9
20°-30°	608.6	13.5
30°-40°	733.5	16.2
40°-50°	770.0	17.1
50°-60°	720.4	16.0
60°-70°	594.9	13.2
70°-80°	405.4	9.0
80°-90°	138.3	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°	1152.4	25.5
0°-40°	1885.9	41.8
0°-60°	3376.4	74.8
0°-90°	4515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4515.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1489	1489	1489	1489	1489	
5°	1486	1484	1477	1486	1486	141
15°	1420	1422	1423	1438	1441	400
25°	1296	1302	1317	1342	1350	596
35°	1126	1138	1168	1207	1219	704
45°	927	947	995	1049	1068	715
55°	712	740	806	872	897	635
65°	481	521	605	682	709	477
75°	249	306	398	473	500	265
85°	51	100	141	159	165	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1489.0	1489.0	1489.0	1489.0	1489.0
2.5°	1490.5	1489.0	1481.5	1489.0	1487.5
5°	1486.0	1484.5	1477.0	1486.0	1486.0
7.5°	1475.5	1475.5	1468.0	1478.5	1480.0
10°	1460.5	1460.5	1456.1	1468.0	1468.0
12.5°	1442.6	1442.6	1442.6	1454.6	1456.1
15°	1420.1	1421.6	1423.1	1438.1	1441.1
17.5°	1393.1	1396.1	1400.6	1418.6	1421.6
20°	1364.7	1367.7	1375.2	1396.1	1400.6
22.5°	1328.7	1336.2	1346.7	1370.7	1375.2
25°	1295.8	1301.8	1316.7	1342.2	1349.7
27.5°	1255.3	1264.3	1283.8	1310.7	1321.2
30°	1214.9	1223.9	1247.8	1279.3	1288.3
32.5°	1171.4	1184.9	1210.4	1243.3	1253.8
35°	1126.5	1138.5	1168.4	1207.4	1219.4
37.5°	1077.1	1093.5	1126.5	1168.4	1183.4
40°	1029.1	1047.1	1084.5	1129.5	1147.5
42.5°	981.2	999.2	1041.1	1092.0	1110.0
45°	927.3	946.7	994.7	1048.6	1068.1
47.5°	873.3	897.3	949.7	1006.7	1027.6
50°	817.9	844.9	901.8	961.7	985.7
52.5°	768.5	793.9	853.9	918.3	940.7
55°	711.5	740.0	805.9	871.8	897.3
57.5°	653.1	684.6	755.0	826.9	852.4
60°	596.2	630.7	708.6	780.5	808.9
62.5°	540.8	575.2	656.1	731.0	759.5
65°	480.9	521.3	605.2	681.6	708.6
67.5°	423.9	467.4	555.8	630.7	657.6
70°	368.5	410.5	504.8	578.2	605.2
72.5°	308.6	356.5	450.9	527.3	555.8
75°	248.7	305.6	398.5	473.4	500.3
77.5°	193.2	251.7	344.5	406.0	419.4
80°	142.3	202.2	283.1	326.6	343.0
82.5°	91.4	151.3	215.7	247.2	260.7
85°	50.9	100.4	140.8	158.8	164.8
87.5°	21.0	43.4	56.9	64.4	64.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)