

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: P314342

Luminaire Tested: **24FCZ2-45-UNV-L83050-S-CA08-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: P314342
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: 24FCZ2-45-UNV-L83050-S-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 4571.0 lumens
Efficiency: N/A
Efficacy: 118.7 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

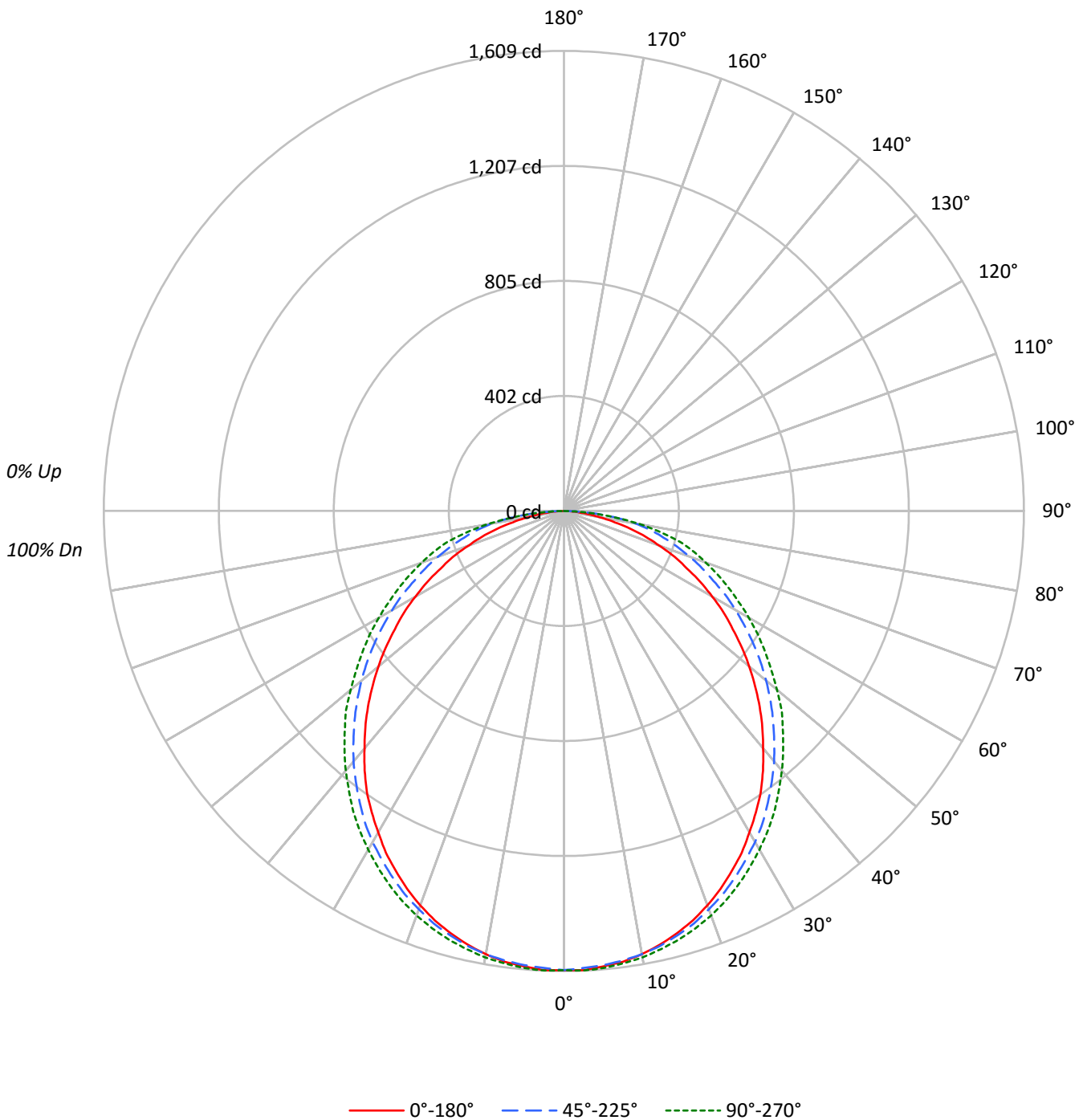
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2161	2161	2161
5°	2159	2153	2167
10°	2150	2150	2166
15°	2130	2140	2162
20°	2102	2123	2156
25°	2063	2102	2143
30°	2017	2078	2125
35°	1972	2044	2108
40°	1905	2010	2083
45°	1843	1970	2061
50°	1772	1933	2036
55°	1693	1897	2016
60°	1614	1868	2012
65°	1512	1835	2025
70°	1399	1845	2079
75°	1253	1879	2196
80°	1013	1991	2149
85°	763	1748	1703



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.0	3.3
10°-20°	434.4	9.5
20°-30°	653.0	14.3
30°-40°	777.8	17.0
40°-50°	796.0	17.4
50°-60°	716.7	15.7
60°-70°	562.8	12.3
70°-80°	365.3	8.0
80°-90°	113.0	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°	1239.4	27.1
0°-40°	2017.2	44.1
0°-60°	3529.9	77.2
0°-90°	4571.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4571.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1606	1606	1606	1606	1606	
5°	1599	1602	1594	1603	1604	152
15°	1529	1533	1536	1549	1552	431
25°	1390	1401	1416	1439	1443	640
35°	1201	1215	1244	1275	1284	749
45°	968	992	1035	1074	1083	747
55°	722	754	809	851	860	647
65°	475	511	576	624	636	473
75°	241	288	362	411	422	255
85°	49	92	113	110	110	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1605.8	1605.8	1605.8	1605.8	1605.8
2.5°	1607.3	1607.3	1600.0	1607.3	1608.7
5°	1598.6	1601.5	1594.2	1602.9	1604.4
7.5°	1589.9	1589.9	1585.5	1594.2	1595.7
10°	1573.9	1575.3	1573.9	1584.0	1585.5
12.5°	1553.6	1556.5	1557.9	1568.1	1569.5
15°	1528.9	1533.2	1536.1	1549.2	1552.1
17.5°	1501.3	1505.6	1512.9	1527.4	1530.3
20°	1467.9	1473.7	1482.4	1501.3	1505.6
22.5°	1431.6	1437.4	1451.9	1469.3	1476.6
25°	1389.5	1401.1	1415.6	1438.9	1443.2
27.5°	1347.4	1357.5	1376.4	1401.1	1406.9
30°	1298.0	1314.0	1337.2	1361.9	1367.7
32.5°	1250.1	1266.1	1293.7	1319.8	1327.1
35°	1200.7	1215.3	1244.3	1274.8	1283.5
37.5°	1144.1	1163.0	1194.9	1225.4	1234.1
40°	1084.6	1107.8	1144.1	1176.1	1186.2
42.5°	1028.0	1052.6	1088.9	1123.8	1135.4
45°	968.4	991.7	1035.2	1074.4	1083.1
47.5°	907.4	933.6	980.0	1019.2	1033.8
50°	846.5	874.1	923.4	964.1	972.8
52.5°	785.5	814.5	866.8	910.4	914.7
55°	721.6	753.5	808.7	850.8	859.5
57.5°	663.5	691.1	750.6	794.2	804.4
60°	599.6	630.1	694.0	734.7	747.7
62.5°	538.7	570.6	637.4	678.0	689.7
65°	474.8	511.1	576.4	624.3	635.9
67.5°	419.6	454.5	524.1	570.6	582.2
70°	355.7	394.9	469.0	516.9	528.5
72.5°	300.5	341.2	415.2	461.7	479.1
75°	241.0	287.5	361.5	410.9	422.5
77.5°	182.9	236.7	312.2	349.9	349.9
80°	130.7	187.3	257.0	274.4	277.3
82.5°	85.7	140.8	190.2	188.7	188.7
85°	49.4	91.5	113.2	110.3	110.3
87.5°	18.9	37.7	40.7	40.7	39.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)