

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: P310968

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-CP187-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: P310968
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: 24FCZ2-55HE-UNV-L82765-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" 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: 4483.0 lumens
Efficiency: N/A
Efficacy: 104.7 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

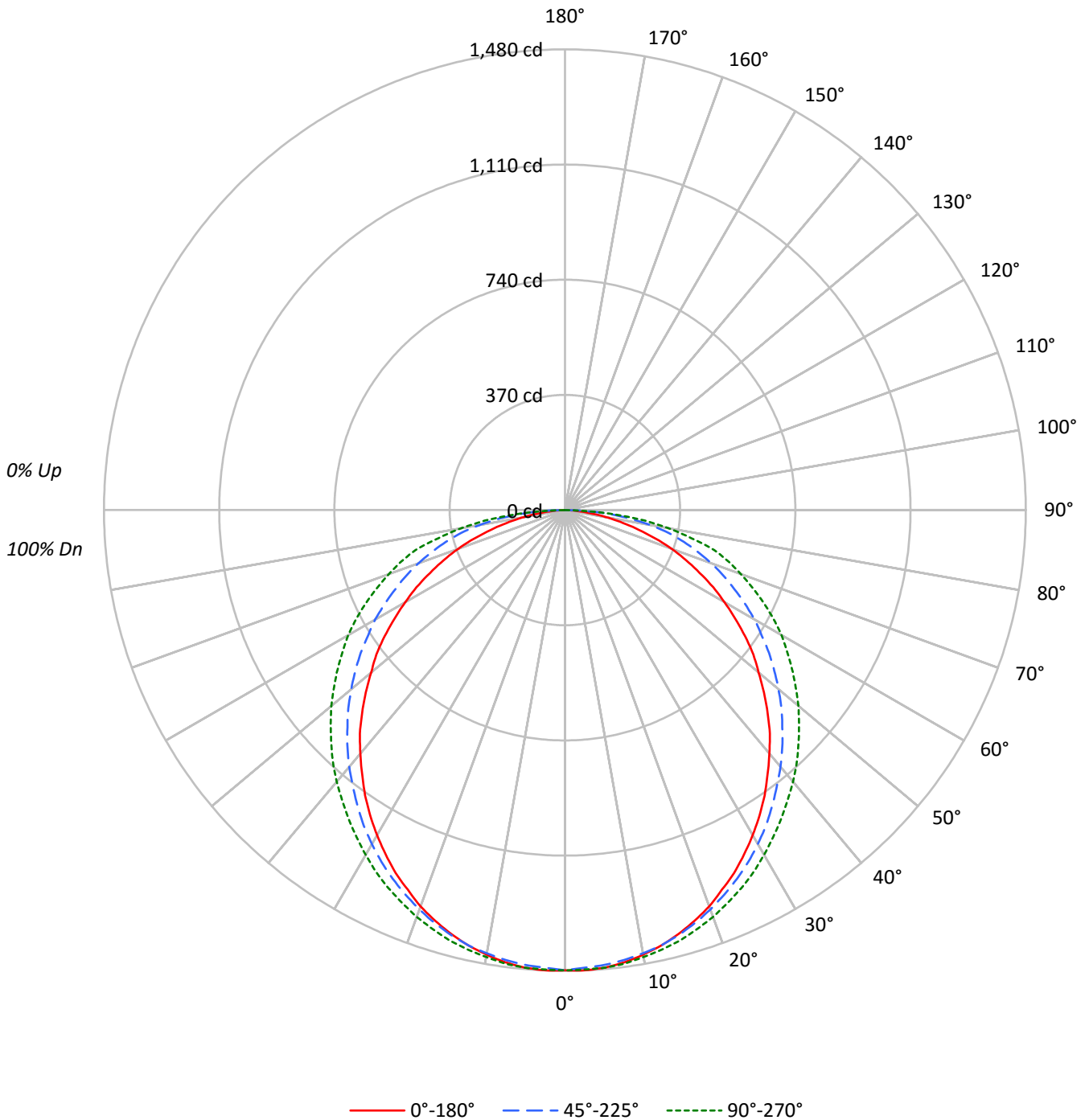
Input Watts (W): 42.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1989	1989	1989
5°	1993	1981	1993
10°	1981	1975	1991
15°	1964	1968	1993
20°	1940	1955	1991
25°	1910	1941	1989
30°	1874	1925	1987
35°	1837	1906	1989
40°	1795	1891	2001
45°	1752	1879	2018
50°	1700	1874	2049
55°	1657	1877	2090
60°	1593	1893	2161
65°	1520	1913	2240
70°	1439	1972	2364
75°	1284	2057	2583
80°	1095	2178	2639
85°	781	2158	2526



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.9	3.1
10°-20°	400.1	8.9
20°-30°	604.3	13.5
30°-40°	728.3	16.2
40°-50°	764.6	17.1
50°-60°	715.3	16.0
60°-70°	590.7	13.2
70°-80°	402.5	9.0
80°-90°	137.3	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°	1144.3	25.5
0°-40°	1872.6	41.8
0°-60°	3352.5	74.8
0°-90°	4483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4483.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1478	1478	1478	1478	1478	
5°	1476	1474	1467	1476	1476	140
15°	1410	1412	1413	1428	1431	397
25°	1287	1292	1307	1333	1340	592
35°	1118	1130	1160	1199	1211	699
45°	921	940	988	1041	1060	710
55°	706	735	800	866	891	631
65°	477	518	601	677	704	474
75°	247	303	396	470	497	263
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°	1478.5	1478.5	1478.5	1478.5	1478.5
2.5°	1479.9	1478.5	1471.0	1478.5	1477.0
5°	1475.5	1474.0	1466.6	1475.5	1475.5
7.5°	1465.1	1465.1	1457.6	1468.0	1469.5
10°	1450.2	1450.2	1445.7	1457.6	1457.6
12.5°	1432.3	1432.3	1432.3	1444.2	1445.7
15°	1410.0	1411.5	1413.0	1427.9	1430.9
17.5°	1383.3	1386.2	1390.7	1408.5	1411.5
20°	1355.0	1358.0	1365.4	1386.2	1390.7
22.5°	1319.3	1326.7	1337.2	1361.0	1365.4
25°	1286.6	1292.5	1307.4	1332.7	1340.1
27.5°	1246.4	1255.3	1274.7	1301.5	1311.9
30°	1206.3	1215.2	1239.0	1270.2	1279.1
32.5°	1163.1	1176.5	1201.8	1234.5	1244.9
35°	1118.5	1130.4	1160.2	1198.8	1210.7
37.5°	1069.4	1085.8	1118.5	1160.2	1175.0
40°	1021.8	1039.7	1076.9	1121.5	1139.3
42.5°	974.2	992.1	1033.7	1084.3	1102.1
45°	920.7	940.0	987.6	1041.2	1060.5
47.5°	867.1	890.9	943.0	999.5	1020.3
50°	812.1	838.9	895.4	954.9	978.7
52.5°	763.0	788.3	847.8	911.8	934.1
55°	706.5	734.8	800.2	865.7	890.9
57.5°	648.5	679.7	749.6	821.0	846.3
60°	592.0	626.2	703.5	774.9	803.2
62.5°	536.9	571.2	651.5	725.8	754.1
65°	477.4	517.6	600.9	676.8	703.5
67.5°	420.9	464.1	551.8	626.2	653.0
70°	365.9	407.5	501.2	574.1	600.9
72.5°	306.4	354.0	447.7	523.6	551.8
75°	246.9	303.4	395.6	470.0	496.8
77.5°	191.9	249.9	342.1	403.1	416.5
80°	141.3	200.8	281.1	324.2	340.6
82.5°	90.7	150.2	214.2	245.4	258.8
85°	50.6	99.7	139.8	157.7	163.6
87.5°	20.8	43.1	56.5	64.0	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)