

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: P310701

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-W2A-U-4500K**

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: P310701
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: 24FCZ2-40HE-UNV-L82765-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 3540.0 lumens
Efficiency: N/A
Efficacy: 114.2 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

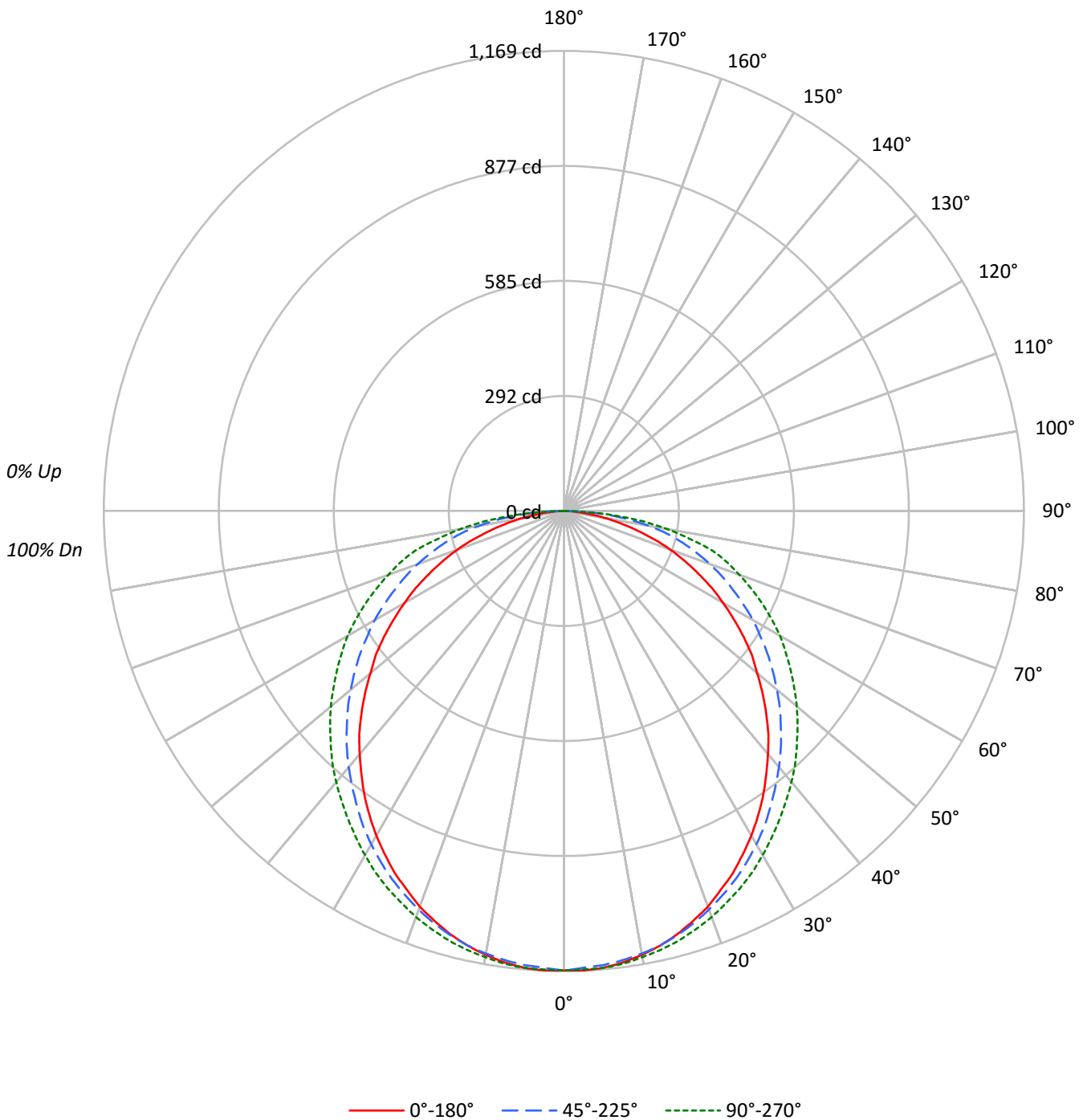
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1571	1571	1571
5°	1574	1564	1574
10°	1564	1560	1573
15°	1551	1554	1574
20°	1532	1544	1572
25°	1508	1533	1571
30°	1480	1520	1569
35°	1451	1505	1570
40°	1417	1493	1580
45°	1383	1484	1593
50°	1342	1480	1618
55°	1309	1482	1650
60°	1258	1495	1707
65°	1200	1511	1769
70°	1137	1557	1867
75°	1014	1624	2039
80°	865	1720	2084
85°	616	1704	1995



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.5	3.1
10°-20°	315.9	8.9
20°-30°	477.2	13.5
30°-40°	575.1	16.2
40°-50°	603.8	17.1
50°-60°	564.9	16.0
60°-70°	466.5	13.2
70°-80°	317.8	9.0
80°-90°	108.4	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°	903.6	25.5
0°-40°	1478.7	41.8
0°-60°	2647.3	74.8
0°-90°	3540.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3540.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1168	1168	1168	1168	1168	
5°	1165	1164	1158	1165	1165	111
15°	1113	1115	1116	1128	1130	314
25°	1016	1021	1032	1052	1058	467
35°	883	893	916	947	956	552
45°	727	742	780	822	837	561
55°	558	580	632	684	704	498
65°	377	409	474	534	556	374
75°	195	240	312	371	392	208
85°	40	79	110	124	129	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.5	1167.5	1167.5	1167.5	1167.5
2.5°	1168.6	1167.5	1161.6	1167.5	1166.3
5°	1165.1	1163.9	1158.1	1165.1	1165.1
7.5°	1156.9	1156.9	1151.0	1159.2	1160.4
10°	1145.1	1145.1	1141.6	1151.0	1151.0
12.5°	1131.1	1131.1	1131.1	1140.4	1141.6
15°	1113.4	1114.6	1115.8	1127.5	1129.9
17.5°	1092.3	1094.6	1098.2	1112.3	1114.6
20°	1070.0	1072.3	1078.2	1094.6	1098.2
22.5°	1041.8	1047.7	1055.9	1074.7	1078.2
25°	1015.9	1020.6	1032.4	1052.4	1058.2
27.5°	984.2	991.3	1006.6	1027.7	1035.9
30°	952.5	959.6	978.4	1003.0	1010.1
32.5°	918.5	929.0	949.0	974.8	983.1
35°	883.2	892.6	916.1	946.7	956.0
37.5°	844.5	857.4	883.2	916.1	927.9
40°	806.9	821.0	850.3	885.6	899.7
42.5°	769.3	783.4	816.3	856.2	870.3
45°	727.0	742.3	779.9	822.2	837.4
47.5°	684.7	703.5	744.6	789.3	805.7
50°	641.3	662.4	707.1	754.0	772.8
52.5°	602.5	622.5	669.5	720.0	737.6
55°	557.9	580.2	631.9	683.6	703.5
57.5°	512.1	536.8	592.0	648.3	668.3
60°	467.5	494.5	555.5	611.9	634.2
62.5°	424.0	451.0	514.4	573.2	595.5
65°	377.0	408.7	474.5	534.4	555.5
67.5°	332.4	366.4	435.7	494.5	515.6
70°	288.9	321.8	395.8	453.4	474.5
72.5°	241.9	279.5	353.5	413.4	435.7
75°	195.0	239.6	312.4	371.1	392.3
77.5°	151.5	197.3	270.1	318.3	328.9
80°	111.6	158.6	222.0	256.0	269.0
82.5°	71.6	118.6	169.1	193.8	204.4
85°	39.9	78.7	110.4	124.5	129.2
87.5°	16.4	34.1	44.6	50.5	50.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)