

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: P310683

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA125-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: P310683
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-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC 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: 3770.0 lumens
Efficiency: N/A
Efficacy: 121.6 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

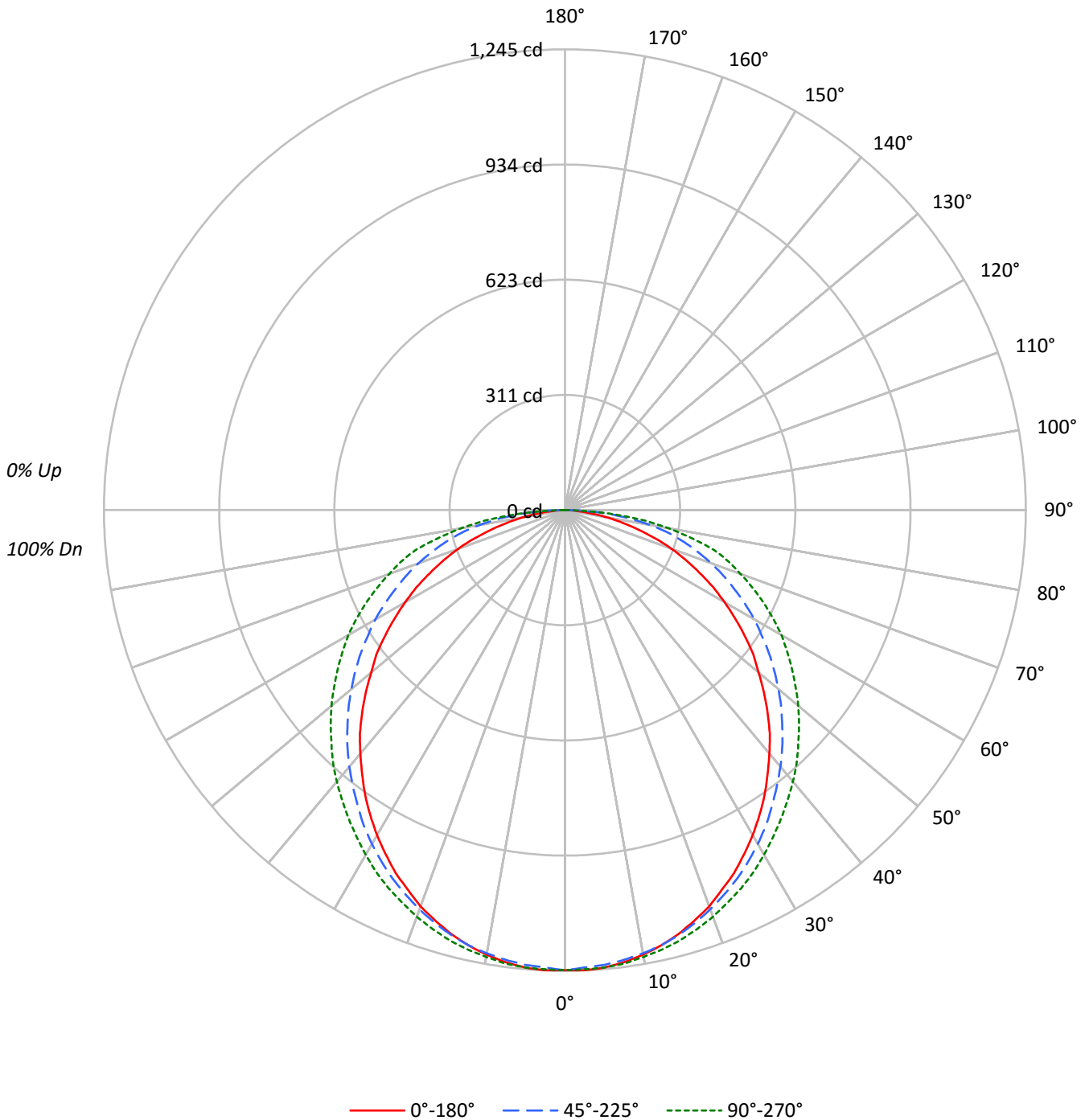
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1673	1673	1673
5°	1676	1666	1676
10°	1666	1661	1675
15°	1652	1655	1676
20°	1632	1644	1675
25°	1606	1632	1673
30°	1576	1619	1671
35°	1545	1602	1672
40°	1509	1591	1683
45°	1473	1580	1697
50°	1429	1576	1723
55°	1394	1578	1757
60°	1340	1592	1817
65°	1278	1609	1883
70°	1210	1658	1988
75°	1079	1730	2172
80°	921	1832	2219
85°	656	1815	2124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.7	3.1
10°-20°	336.4	8.9
20°-30°	508.2	13.5
30°-40°	612.5	16.2
40°-50°	643.0	17.1
50°-60°	601.5	16.0
60°-70°	496.8	13.2
70°-80°	338.5	9.0
80°-90°	115.4	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°	962.3	25.5
0°-40°	1574.8	41.8
0°-60°	2819.3	74.8
0°-90°	3770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3770.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1243	1243	1243	1243	1243	
5°	1241	1240	1233	1241	1241	118
15°	1186	1187	1188	1201	1203	334
25°	1082	1087	1100	1121	1127	498
35°	941	951	976	1008	1018	588
45°	774	790	830	876	892	597
55°	594	618	673	728	749	530
65°	402	435	505	569	592	398
75°	208	255	333	395	418	221
85°	42	84	118	133	138	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1243.3	1243.3	1243.3	1243.3	1243.3
2.5°	1244.6	1243.3	1237.1	1243.3	1242.1
5°	1240.8	1239.6	1233.3	1240.8	1240.8
7.5°	1232.1	1232.1	1225.8	1234.6	1235.8
10°	1219.5	1219.5	1215.8	1225.8	1225.8
12.5°	1204.5	1204.5	1204.5	1214.5	1215.8
15°	1185.8	1187.0	1188.3	1200.8	1203.3
17.5°	1163.3	1165.8	1169.5	1184.5	1187.0
20°	1139.5	1142.0	1148.3	1165.8	1169.5
22.5°	1109.5	1115.7	1124.5	1144.5	1148.3
25°	1082.0	1087.0	1099.5	1120.7	1127.0
27.5°	1048.2	1055.7	1072.0	1094.5	1103.2
30°	1014.4	1021.9	1041.9	1068.2	1075.7
32.5°	978.1	989.4	1010.7	1038.2	1046.9
35°	940.6	950.6	975.6	1008.2	1018.2
37.5°	899.3	913.1	940.6	975.6	988.1
40°	859.3	874.3	905.6	943.1	958.1
42.5°	819.3	834.3	869.3	911.8	926.9
45°	774.3	790.5	830.5	875.6	891.8
47.5°	729.2	749.2	793.0	840.5	858.1
50°	682.9	705.5	753.0	803.0	823.0
52.5°	641.7	662.9	713.0	766.8	785.5
55°	594.1	617.9	672.9	728.0	749.2
57.5°	545.4	571.6	630.4	690.5	711.7
60°	497.8	526.6	591.6	651.7	675.4
62.5°	451.5	480.3	547.9	610.4	634.2
65°	401.5	435.3	505.3	569.1	591.6
67.5°	354.0	390.3	464.1	526.6	549.1
70°	307.7	342.7	421.5	482.8	505.3
72.5°	257.7	297.7	376.5	440.3	464.1
75°	207.6	255.2	332.7	395.3	417.8
77.5°	161.4	210.1	287.7	339.0	350.2
80°	118.8	168.9	236.4	272.7	286.4
82.5°	76.3	126.3	180.1	206.4	217.6
85°	42.5	83.8	117.6	132.6	137.6
87.5°	17.5	36.3	47.5	53.8	53.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)