

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: P313901

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP125-W2A-U-3500K**

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: P313901
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-L83050-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET
Light Source: (336) 3500K 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: 3638.0 lumens
Efficiency: N/A
Efficacy: 119.7 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

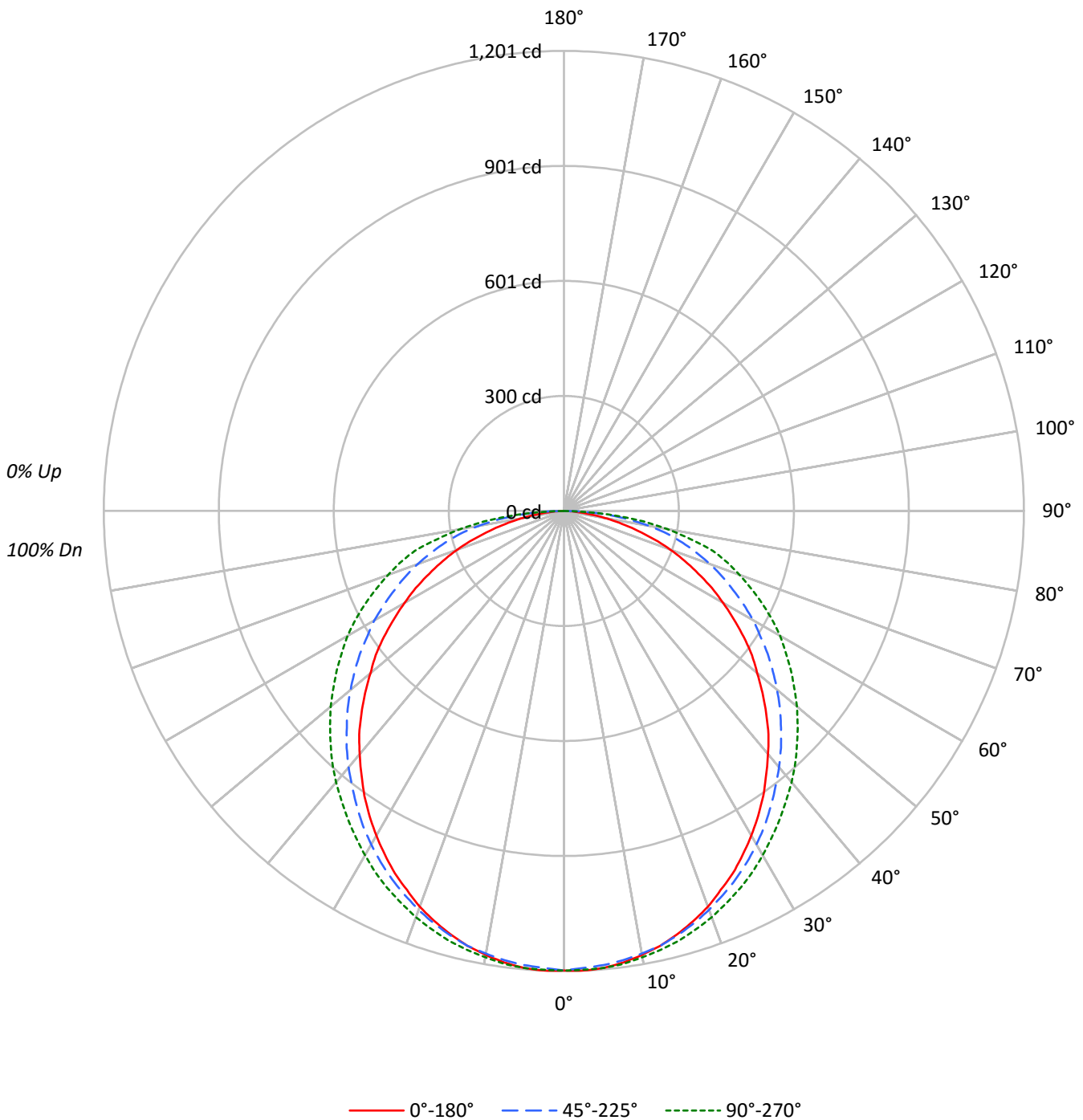
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1614	1614	1614
5°	1617	1607	1617
10°	1608	1603	1616
15°	1594	1597	1617
20°	1574	1586	1616
25°	1550	1575	1614
30°	1521	1562	1613
35°	1491	1546	1614
40°	1456	1535	1624
45°	1422	1525	1638
50°	1379	1521	1662
55°	1345	1523	1696
60°	1293	1536	1754
65°	1234	1552	1818
70°	1168	1600	1918
75°	1042	1669	2096
80°	889	1767	2142
85°	633	1752	2050



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.5	3.1
10°-20°	324.7	8.9
20°-30°	490.4	13.5
30°-40°	591.0	16.2
40°-50°	620.5	17.1
50°-60°	580.5	16.0
60°-70°	479.4	13.2
70°-80°	326.7	9.0
80°-90°	111.4	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°	928.6	25.5
0°-40°	1519.6	41.8
0°-60°	2720.6	74.8
0°-90°	3638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3638.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1200	1200	1200	1200	1200	
5°	1197	1196	1190	1197	1197	114
15°	1144	1146	1147	1159	1161	323
25°	1044	1049	1061	1082	1088	480
35°	908	917	942	973	982	567
45°	747	763	802	845	861	576
55°	573	596	649	702	723	512
65°	388	420	488	549	571	384
75°	200	246	321	381	403	214
85°	41	81	114	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1199.8	1199.8	1199.8	1199.8	1199.8
2.5°	1201.0	1199.8	1193.7	1199.8	1198.6
5°	1197.4	1196.2	1190.1	1197.4	1197.4
7.5°	1188.9	1188.9	1182.9	1191.3	1192.5
10°	1176.8	1176.8	1173.2	1182.9	1182.9
12.5°	1162.4	1162.4	1162.4	1172.0	1173.2
15°	1144.3	1145.5	1146.7	1158.7	1161.2
17.5°	1122.5	1124.9	1128.6	1143.1	1145.5
20°	1099.6	1102.0	1108.0	1124.9	1128.6
22.5°	1070.6	1076.7	1085.1	1104.4	1108.0
25°	1044.1	1048.9	1061.0	1081.5	1087.5
27.5°	1011.5	1018.7	1034.4	1056.1	1064.6
30°	978.9	986.1	1005.5	1030.8	1038.0
32.5°	943.9	954.8	975.3	1001.8	1010.3
35°	907.7	917.3	941.5	972.9	982.5
37.5°	867.8	881.1	907.7	941.5	953.5
40°	829.2	843.7	873.9	910.1	924.6
42.5°	790.6	805.1	838.9	879.9	894.4
45°	747.1	762.8	801.5	844.9	860.6
47.5°	703.7	723.0	765.3	811.1	828.0
50°	659.0	680.8	726.6	774.9	794.2
52.5°	619.2	639.7	688.0	739.9	758.0
55°	573.3	596.3	649.4	702.5	723.0
57.5°	526.3	551.6	608.3	666.3	686.8
60°	480.4	508.2	570.9	628.9	651.8
62.5°	435.7	463.5	528.7	589.0	612.0
65°	387.5	420.0	487.6	549.2	570.9
67.5°	341.6	376.6	447.8	508.2	529.9
70°	296.9	330.7	406.8	465.9	487.6
72.5°	248.6	287.3	363.3	424.9	447.8
75°	200.4	246.2	321.1	381.4	403.1
77.5°	155.7	202.8	277.6	327.1	338.0
80°	114.7	162.9	228.1	263.1	276.4
82.5°	73.6	121.9	173.8	199.2	210.0
85°	41.0	80.9	113.5	127.9	132.8
87.5°	16.9	35.0	45.9	51.9	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)