

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: P311408

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP125-W2A-U-2700K**

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: P311408
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: 24FCZ2-40-UNV-L82765-S-CP125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 2700K 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: 3486.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

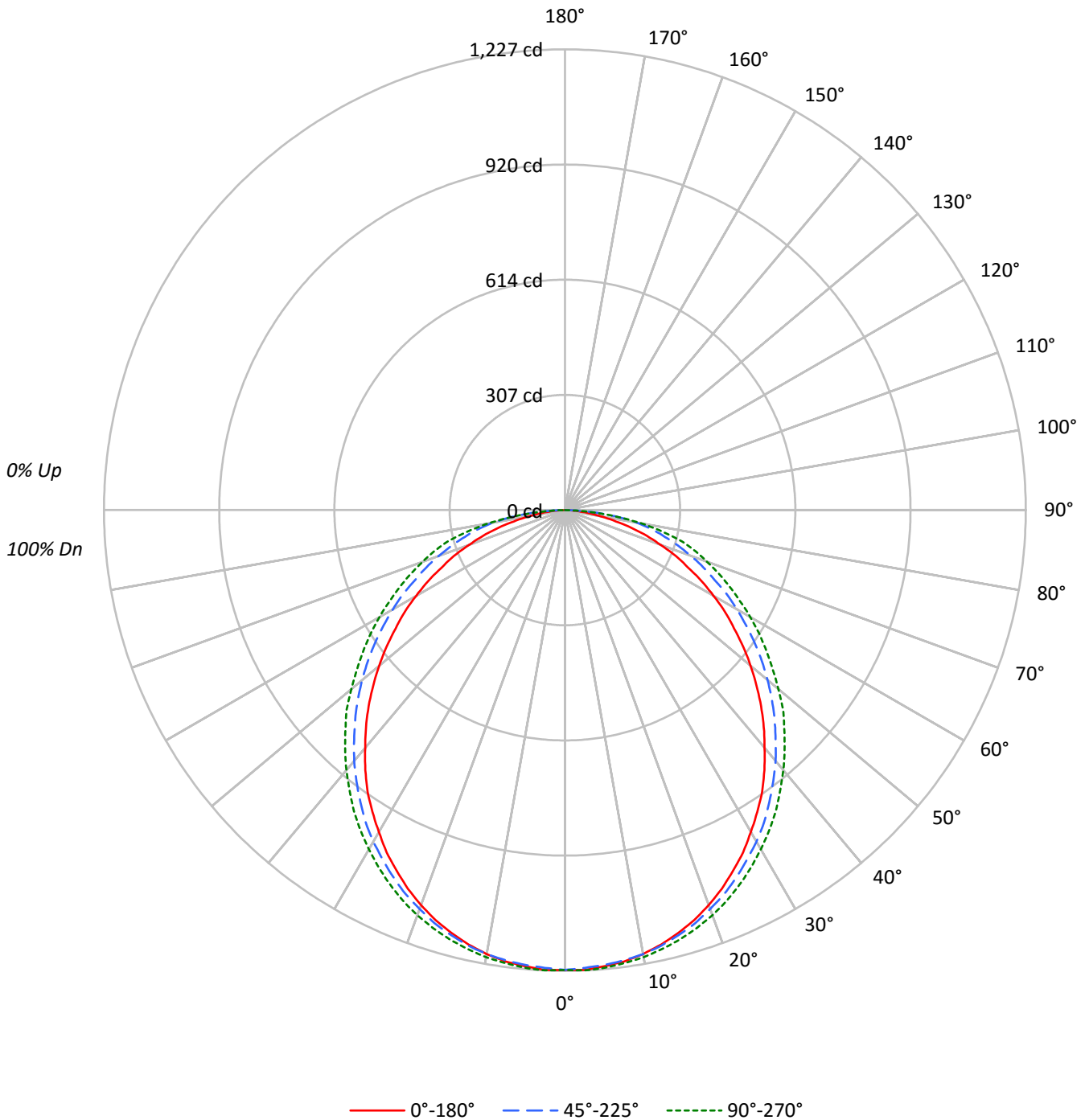
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1648	1648	1648
5°	1647	1642	1652
10°	1640	1640	1652
15°	1624	1632	1649
20°	1603	1619	1644
25°	1573	1603	1634
30°	1538	1584	1621
35°	1504	1559	1608
40°	1453	1532	1589
45°	1405	1502	1572
50°	1351	1474	1553
55°	1291	1447	1538
60°	1231	1424	1535
65°	1153	1400	1544
70°	1067	1407	1586
75°	955	1433	1675
80°	773	1519	1639
85°	580	1334	1300



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.9	3.3
10°-20°	331.3	9.5
20°-30°	498.0	14.3
30°-40°	593.2	17.0
40°-50°	607.1	17.4
50°-60°	546.6	15.7
60°-70°	429.2	12.3
70°-80°	278.6	8.0
80°-90°	86.2	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°	945.2	27.1
0°-40°	1538.4	44.1
0°-60°	2692.0	77.2
0°-90°	3486.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3486.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1225	1225	1225	1225	1225	
5°	1219	1221	1216	1222	1224	116
15°	1166	1169	1172	1182	1184	329
25°	1060	1068	1080	1097	1101	488
35°	916	927	949	972	979	571
45°	739	756	790	819	826	569
55°	550	575	617	649	656	493
65°	362	390	440	476	485	360
75°	184	219	276	313	322	195
85°	38	70	86	84	84	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1224.7	1224.7	1224.7	1224.7	1224.7
2.5°	1225.8	1225.8	1220.2	1225.8	1226.9
5°	1219.1	1221.3	1215.8	1222.4	1223.5
7.5°	1212.5	1212.5	1209.2	1215.8	1216.9
10°	1200.3	1201.4	1200.3	1208.0	1209.2
12.5°	1184.8	1187.0	1188.1	1195.9	1197.0
15°	1166.0	1169.3	1171.5	1181.5	1183.7
17.5°	1144.9	1148.3	1153.8	1164.9	1167.1
20°	1119.5	1123.9	1130.5	1144.9	1148.3
22.5°	1091.8	1096.2	1107.3	1120.6	1126.1
25°	1059.7	1068.5	1079.6	1097.3	1100.6
27.5°	1027.6	1035.3	1049.7	1068.5	1073.0
30°	989.9	1002.1	1019.8	1038.6	1043.1
32.5°	953.4	965.6	986.6	1006.5	1012.1
35°	915.7	926.8	948.9	972.2	978.8
37.5°	872.5	886.9	911.3	934.5	941.2
40°	827.1	844.9	872.5	896.9	904.6
42.5°	784.0	802.8	830.5	857.0	865.9
45°	738.6	756.3	789.5	819.4	826.0
47.5°	692.1	712.0	747.4	777.3	788.4
50°	645.5	666.6	704.2	735.2	741.9
52.5°	599.0	621.2	661.0	694.3	697.6
55°	550.3	574.7	616.8	648.9	655.5
57.5°	506.0	527.1	572.5	605.7	613.4
60°	457.3	480.6	529.3	560.3	570.3
62.5°	410.8	435.2	486.1	517.1	526.0
65°	362.1	389.8	439.6	476.1	485.0
67.5°	320.0	346.6	399.7	435.2	444.0
70°	271.3	301.2	357.7	394.2	403.1
72.5°	229.2	260.2	316.7	352.1	365.4
75°	183.8	219.2	275.7	313.4	322.2
77.5°	139.5	180.5	238.1	266.9	266.9
80°	99.7	142.8	196.0	209.3	211.5
82.5°	65.3	107.4	145.1	143.9	143.9
85°	37.6	69.8	86.4	84.2	84.2
87.5°	14.4	28.8	31.0	31.0	29.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)