

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: P311322

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP125-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: P311322
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: 24FCZ2-35-UNV-L82765-S-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 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: 3391.0 lumens
Efficiency: N/A
Efficacy: 119.0 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

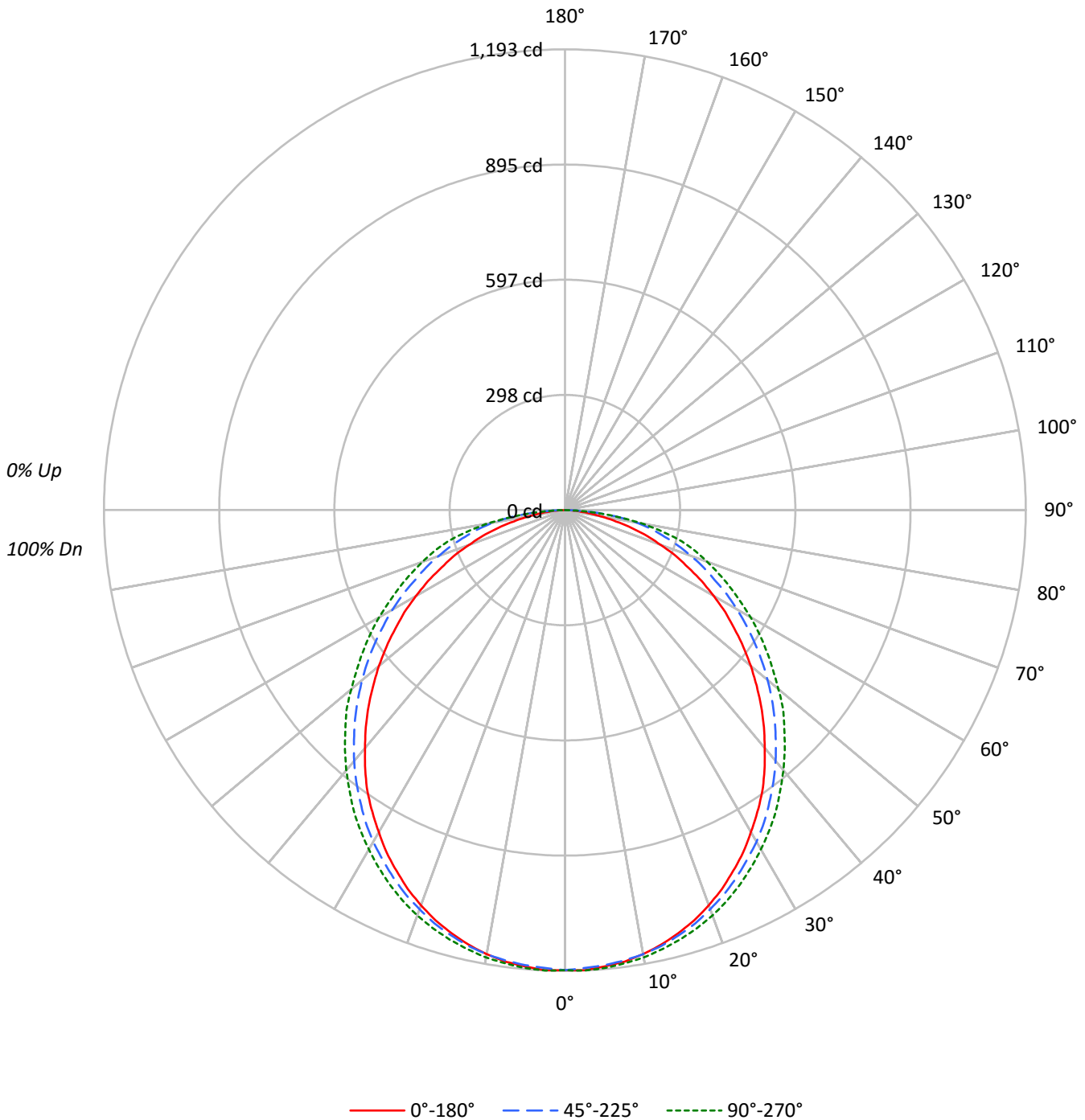
Input Watts (W): 28.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1603	1603	1603
5°	1602	1597	1608
10°	1595	1595	1607
15°	1580	1587	1604
20°	1559	1575	1599
25°	1530	1559	1589
30°	1496	1541	1576
35°	1463	1516	1564
40°	1413	1491	1546
45°	1367	1461	1529
50°	1315	1434	1511
55°	1256	1407	1496
60°	1197	1386	1493
65°	1121	1361	1502
70°	1038	1369	1543
75°	930	1394	1629
80°	751	1477	1594
85°	565	1297	1264



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.8	3.3
10°-20°	322.3	9.5
20°-30°	484.4	14.3
30°-40°	577.0	17.0
40°-50°	590.6	17.4
50°-60°	531.7	15.7
60°-70°	417.5	12.3
70°-80°	271.0	8.0
80°-90°	83.8	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°	919.4	27.1
0°-40°	1496.5	44.1
0°-60°	2618.7	77.2
0°-90°	3391.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3391.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1191	1191	1191	1191	1191	
5°	1186	1188	1183	1189	1190	113
15°	1134	1137	1140	1149	1151	320
25°	1031	1039	1050	1067	1071	475
35°	891	902	923	946	952	556
45°	718	736	768	797	804	554
55°	535	559	600	631	638	480
65°	352	379	428	463	472	351
75°	179	213	268	305	313	189
85°	37	68	84	82	82	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1191.3	1191.3	1191.3	1191.3	1191.3
2.5°	1192.4	1192.4	1187.0	1192.4	1193.4
5°	1185.9	1188.0	1182.7	1189.1	1190.2
7.5°	1179.4	1179.4	1176.2	1182.7	1183.7
10°	1167.6	1168.7	1167.6	1175.1	1176.2
12.5°	1152.5	1154.7	1155.7	1163.3	1164.4
15°	1134.2	1137.4	1139.6	1149.3	1151.4
17.5°	1113.7	1117.0	1122.3	1133.1	1135.3
20°	1089.0	1093.3	1099.7	1113.7	1117.0
22.5°	1062.0	1066.3	1077.1	1090.0	1095.4
25°	1030.8	1039.4	1050.2	1067.4	1070.6
27.5°	999.6	1007.1	1021.1	1039.4	1043.7
30°	962.9	974.8	992.0	1010.3	1014.6
32.5°	927.4	939.2	959.7	979.1	984.5
35°	890.8	901.5	923.1	945.7	952.2
37.5°	848.8	862.8	886.5	909.1	915.5
40°	804.6	821.8	848.8	872.5	880.0
42.5°	762.6	780.9	807.8	833.7	842.3
45°	718.4	735.7	768.0	797.1	803.5
47.5°	673.2	692.6	727.0	756.1	766.9
50°	628.0	648.4	685.0	715.2	721.7
52.5°	582.7	604.3	643.0	675.3	678.6
55°	535.3	559.0	599.9	631.2	637.6
57.5°	492.2	512.7	556.9	589.2	596.7
60°	444.8	467.5	514.9	545.0	554.7
62.5°	399.6	423.3	472.9	503.0	511.6
65°	352.2	379.1	427.6	463.2	471.8
67.5°	311.3	337.1	388.8	423.3	431.9
70°	263.9	293.0	347.9	383.5	392.1
72.5°	223.0	253.1	308.1	342.5	355.4
75°	178.8	213.3	268.2	304.8	313.4
77.5°	135.7	175.6	231.6	259.6	259.6
80°	96.9	138.9	190.6	203.6	205.7
82.5°	63.5	104.5	141.1	140.0	140.0
85°	36.6	67.9	84.0	81.9	81.9
87.5°	14.0	28.0	30.2	30.2	29.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)