

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: P311232

Luminaire Tested: **24FCZ2-30-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: P311232  
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: 24FCZ2-30-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**

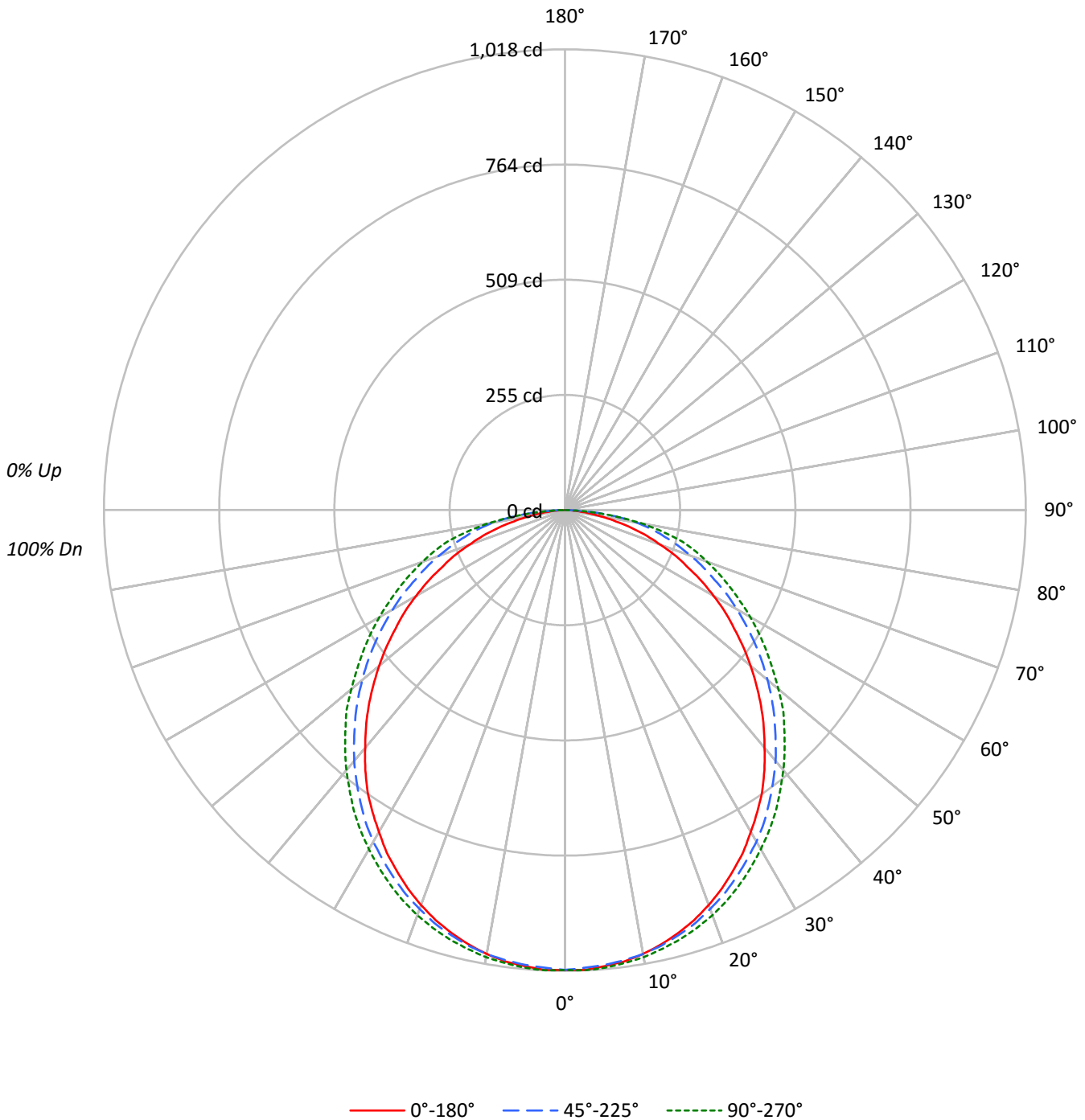
Lumens per Lamp: N/A  
Luminaire Lumens: 2892.0 lumens  
Efficiency: N/A  
Efficacy: 121.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1367	1367	1367
5°	1366	1362	1371
10°	1361	1361	1370
15°	1347	1354	1368
20°	1330	1343	1364
25°	1305	1330	1356
30°	1276	1314	1344
35°	1248	1293	1334
40°	1205	1271	1318
45°	1166	1246	1304
50°	1121	1223	1288
55°	1071	1200	1276
60°	1021	1182	1273
65°	956	1161	1281
70°	886	1167	1316
75°	793	1189	1390
80°	641	1260	1360
85°	482	1107	1078



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.2	3.3
10°-20°	274.8	9.5
20°-30°	413.1	14.3
30°-40°	492.1	17.0
40°-50°	503.7	17.4
50°-60°	453.4	15.7
60°-70°	356.1	12.3
70°-80°	231.1	8.0
80°-90°	71.5	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°	784.1	27.1
0°-40°	1276.2	44.1
0°-60°	2233.3	77.2
0°-90°	2892.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2892.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1016	1016	1016	1016	1016	
5°	1011	1013	1009	1014	1015	96
15°	967	970	972	980	982	273
25°	879	886	896	910	913	405
35°	760	769	787	806	812	474
45°	613	627	655	680	685	472
55°	456	477	512	538	544	409
65°	300	323	365	395	402	299
75°	152	182	229	260	267	161
85°	31	58	72	70	70	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1016.0	1016.0	1016.0	1016.0	1016.0
2.5°	1016.9	1016.9	1012.3	1016.9	1017.8
5°	1011.4	1013.2	1008.6	1014.1	1015.1
7.5°	1005.9	1005.9	1003.1	1008.6	1009.5
10°	995.8	996.7	995.8	1002.2	1003.1
12.5°	982.9	984.7	985.7	992.1	993.0
15°	967.3	970.0	971.9	980.2	982.0
17.5°	949.8	952.6	957.2	966.4	968.2
20°	928.7	932.4	937.9	949.8	952.6
22.5°	905.7	909.4	918.6	929.6	934.2
25°	879.1	886.5	895.6	910.3	913.1
27.5°	852.5	858.9	870.8	886.5	890.1
30°	821.2	831.3	846.0	861.7	865.3
32.5°	790.9	801.0	818.5	835.0	839.6
35°	759.7	768.9	787.2	806.5	812.0
37.5°	723.9	735.8	756.0	775.3	780.8
40°	686.2	700.9	723.9	744.1	750.5
42.5°	650.4	666.0	689.0	711.0	718.4
45°	612.7	627.4	655.0	679.8	685.3
47.5°	574.1	590.7	620.1	644.9	654.0
50°	535.5	553.0	584.2	610.0	615.5
52.5°	497.0	515.3	548.4	576.0	578.7
55°	456.5	476.8	511.7	538.3	543.8
57.5°	419.8	437.3	474.9	502.5	508.9
60°	379.4	398.7	439.1	464.8	473.1
62.5°	340.8	361.0	403.3	429.0	436.3
65°	300.4	323.3	364.7	395.0	402.3
67.5°	265.5	287.5	331.6	361.0	368.4
70°	225.1	249.9	296.7	327.0	334.4
72.5°	190.2	215.9	262.7	292.1	303.1
75°	152.5	181.9	228.7	260.0	267.3
77.5°	115.7	149.7	197.5	221.4	221.4
80°	82.7	118.5	162.6	173.6	175.5
82.5°	54.2	89.1	120.3	119.4	119.4
85°	31.2	57.9	71.7	69.8	69.8
87.5°	11.9	23.9	25.7	25.7	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)