

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: P310127

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-5500K**

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: P310127  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET  
Light Source: (336) 5500K 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: 2662.0 lumens  
Efficiency: N/A  
Efficacy: 76.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

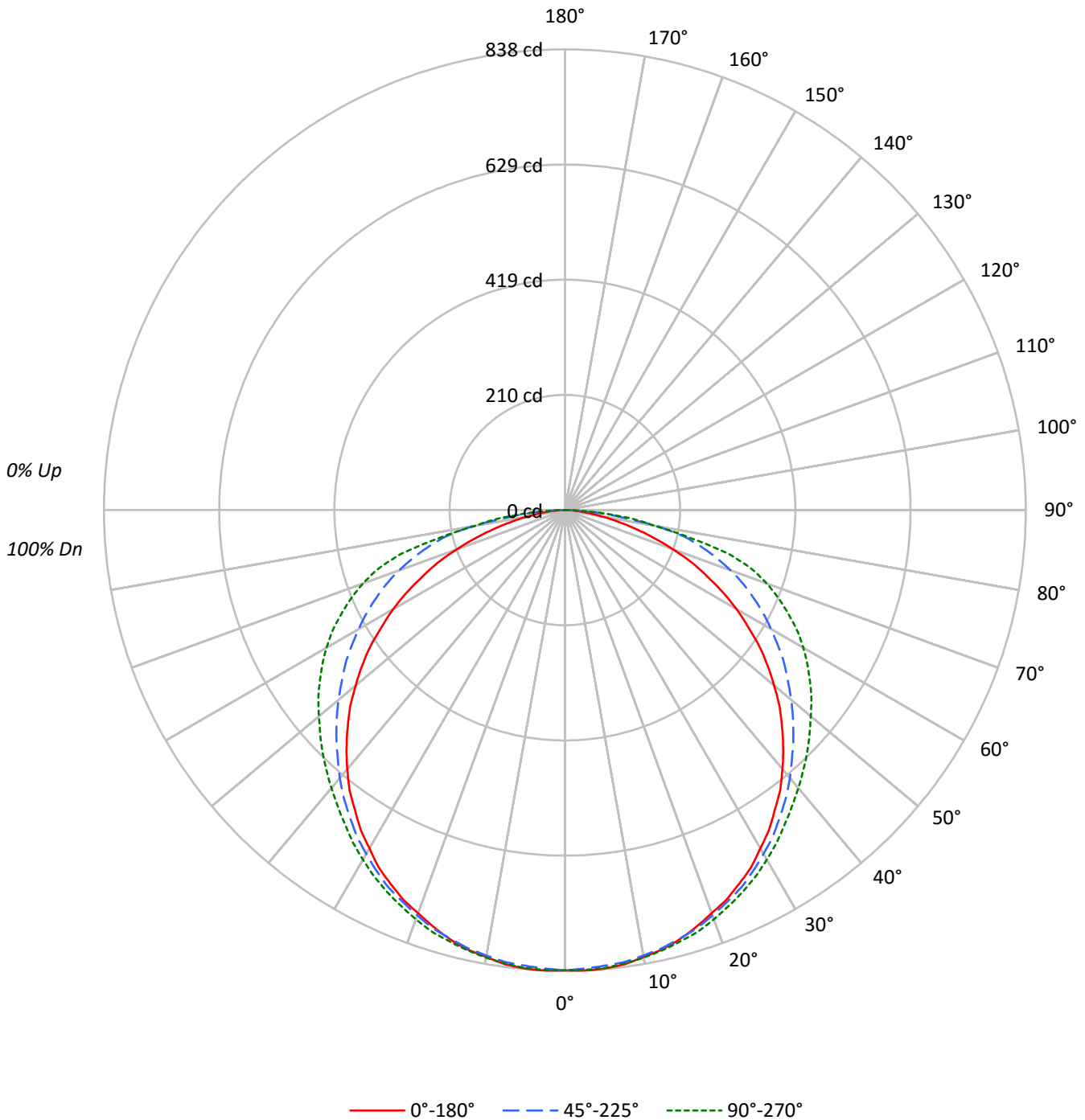
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1126	1126	1126
5°	1131	1123	1129
10°	1127	1124	1129
15°	1126	1124	1131
20°	1117	1123	1134
25°	1113	1125	1137
30°	1104	1122	1141
35°	1093	1119	1145
40°	1081	1118	1160
45°	1063	1118	1186
50°	1039	1125	1222
55°	1013	1143	1276
60°	970	1165	1347
65°	908	1206	1429
70°	826	1262	1537
75°	700	1332	1606
80°	552	1340	1299
85°	408	1019	1141



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	3.0
10°-20°	228.5	8.6
20°-30°	349.5	13.1
30°-40°	427.2	16.0
40°-50°	455.4	17.1
50°-60°	435.4	16.4
60°-70°	368.8	13.9
70°-80°	247.9	9.3
80°-90°	69.9	2.6
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°	657.4	24.7
0°-40°	1084.7	40.7
0°-60°	1975.4	74.2
0°-90°	2662.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2662.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	837	837	837	837	837	
5°	837	836	832	836	836	80
15°	808	808	807	813	812	228
25°	750	753	758	764	766	346
35°	666	671	681	694	697	417
45°	558	568	588	613	623	431
55°	432	448	487	526	544	385
65°	285	314	379	429	449	283
75°	135	184	256	300	309	144
85°	26	54	66	71	74	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	837.1	837.1	837.1	837.1	837.1
2.5°	838.4	838.4	834.5	837.1	837.1
5°	837.1	835.8	831.8	835.8	835.8
7.5°	833.2	831.8	829.2	833.2	831.8
10°	825.2	825.2	822.6	826.6	826.6
12.5°	818.6	817.3	816.0	821.3	820.0
15°	808.1	808.1	806.8	813.4	812.0
17.5°	794.9	796.2	797.5	802.8	804.1
20°	780.3	783.0	784.3	792.2	792.2
22.5°	767.1	768.5	771.1	779.0	779.0
25°	750.0	752.6	757.9	764.5	765.8
27.5°	732.8	734.1	740.7	750.0	751.3
30°	710.4	714.3	722.2	732.8	734.1
32.5°	690.6	694.5	703.8	714.3	717.0
35°	665.5	670.8	681.3	694.5	697.2
37.5°	643.0	647.0	660.2	674.7	678.7
40°	615.3	623.2	636.4	653.6	660.2
42.5°	587.6	595.5	611.3	633.8	641.7
45°	558.5	567.8	587.6	612.7	623.2
47.5°	529.5	540.0	562.5	591.5	603.4
50°	496.5	509.7	537.4	570.4	583.6
52.5°	464.8	480.6	511.0	548.0	565.1
55°	431.8	447.6	487.2	525.5	544.0
57.5°	394.8	415.9	459.5	503.1	522.9
60°	360.5	380.3	433.1	480.6	500.4
62.5°	323.5	349.9	406.7	456.9	476.7
65°	285.2	314.3	378.9	429.1	448.9
67.5°	250.9	282.6	351.2	401.4	421.2
70°	209.9	249.6	320.9	371.0	390.8
72.5°	171.6	215.2	289.2	338.0	356.5
75°	134.7	183.5	256.2	299.7	309.0
77.5°	100.3	151.8	221.8	240.3	233.7
80°	71.3	121.5	173.0	163.7	167.7
82.5°	46.2	92.4	107.0	121.5	125.4
85°	26.4	54.1	66.0	71.3	73.9
87.5°	11.9	19.8	26.4	26.4	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)