

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: P310119

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-5700K**

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: P310119  
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-CP187-W2A-U-5700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET  
Light Source: (336) 5700K 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**

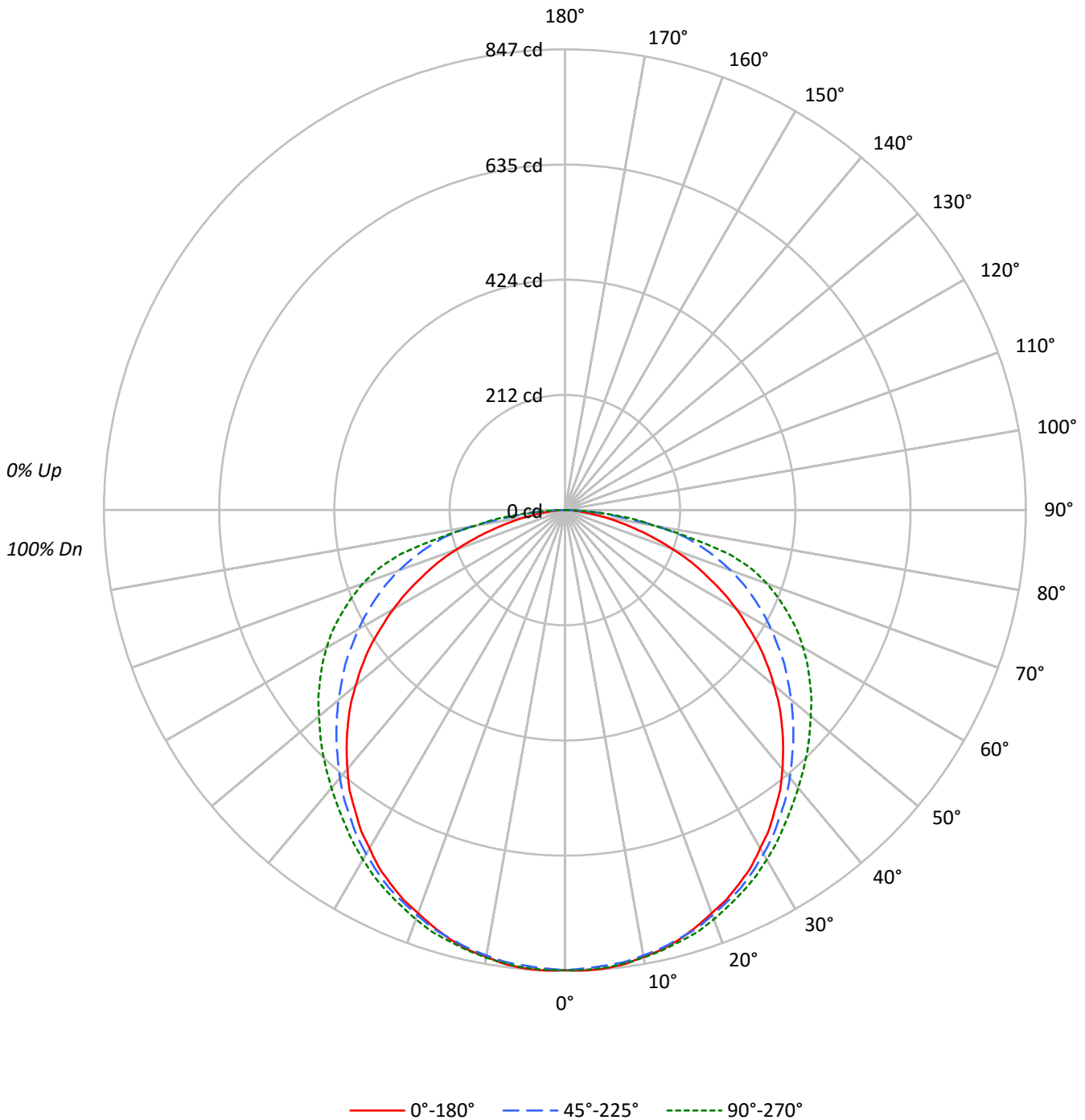
Lumens per Lamp: N/A  
Luminaire Lumens: 2690.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1138	1138	1138
5°	1142	1135	1141
10°	1139	1136	1141
15°	1137	1136	1143
20°	1129	1135	1146
25°	1125	1137	1149
30°	1115	1134	1153
35°	1105	1131	1157
40°	1092	1130	1172
45°	1074	1130	1198
50°	1050	1137	1234
55°	1023	1155	1289
60°	980	1178	1361
65°	918	1219	1444
70°	834	1275	1554
75°	708	1345	1623
80°	559	1354	1313
85°	412	1030	1153



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.2	3.0
10°-20°	230.9	8.6
20°-30°	353.2	13.1
30°-40°	431.7	16.0
40°-50°	460.1	17.1
50°-60°	439.9	16.4
60°-70°	372.7	13.9
70°-80°	250.5	9.3
80°-90°	70.7	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°	664.3	24.7
0°-40°	1096.1	40.7
0°-60°	1996.2	74.2
0°-90°	2690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2690.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	846	846	846	846	846	
5°	846	845	841	845	845	80
15°	817	817	815	822	821	230
25°	758	760	766	772	774	349
35°	672	678	688	702	704	421
45°	564	574	594	619	630	435
55°	436	452	492	531	550	389
65°	288	318	383	434	454	286
75°	136	186	259	303	312	146
85°	27	55	67	72	75	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	845.9	845.9	845.9	845.9	845.9
2.5°	847.3	847.3	843.3	845.9	845.9
5°	845.9	844.6	840.6	844.6	844.6
7.5°	841.9	840.6	837.9	841.9	840.6
10°	833.9	833.9	831.3	835.3	835.3
12.5°	827.2	825.9	824.6	829.9	828.6
15°	816.6	816.6	815.2	821.9	820.6
17.5°	803.2	804.6	805.9	811.2	812.6
20°	788.6	791.2	792.6	800.6	800.6
22.5°	775.2	776.5	779.2	787.2	787.2
25°	757.9	760.5	765.9	772.5	773.9
27.5°	740.5	741.9	748.5	757.9	759.2
30°	717.8	721.8	729.8	740.5	741.9
32.5°	697.8	701.8	711.2	721.8	724.5
35°	672.5	677.8	688.5	701.8	704.5
37.5°	649.8	653.8	667.1	681.8	685.8
40°	621.8	629.8	643.1	660.5	667.1
42.5°	593.8	601.8	617.8	640.5	648.5
45°	564.4	573.7	593.8	619.1	629.8
47.5°	535.0	545.7	568.4	597.8	609.8
50°	501.7	515.0	543.0	576.4	589.7
52.5°	469.7	485.7	516.4	553.7	571.1
55°	436.3	452.3	492.3	531.0	549.7
57.5°	398.9	420.3	464.3	508.4	528.4
60°	364.3	384.3	437.6	485.7	505.7
62.5°	326.9	353.6	411.0	461.7	481.7
65°	288.2	317.6	382.9	433.6	453.7
67.5°	253.5	285.5	354.9	405.6	425.6
70°	212.1	252.2	324.2	374.9	394.9
72.5°	173.5	217.5	292.2	341.6	360.3
75°	136.1	185.5	258.8	302.9	312.2
77.5°	101.4	153.4	224.2	242.8	236.2
80°	72.1	122.8	174.8	165.4	169.5
82.5°	46.7	93.4	108.1	122.8	126.8
85°	26.7	54.7	66.7	72.1	74.7
87.5°	12.0	20.0	26.7	26.7	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)