

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: P313956

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP187-W2A-U-3500K**

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: P313956  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-L83050-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3500K 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**

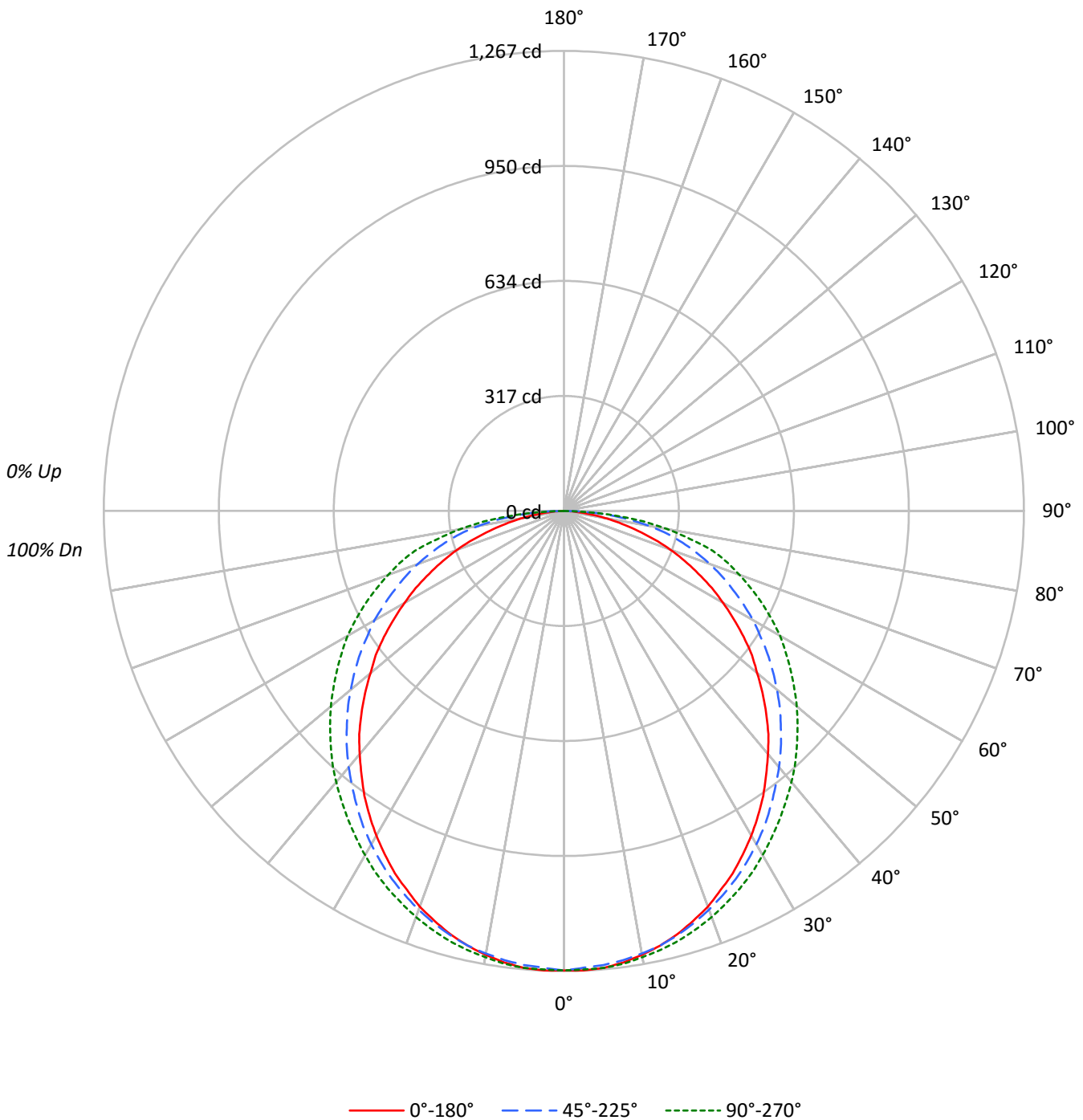
Lumens per Lamp: N/A  
Luminaire Lumens: 3837.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

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

	0°	45°	90°
0°	1703	1703	1703
5°	1706	1695	1706
10°	1696	1691	1705
15°	1681	1685	1706
20°	1661	1673	1704
25°	1635	1661	1703
30°	1604	1647	1701
35°	1572	1631	1702
40°	1536	1619	1713
45°	1499	1608	1727
50°	1455	1604	1753
55°	1418	1607	1789
60°	1364	1621	1850
65°	1301	1637	1917
70°	1232	1688	2023
75°	1098	1760	2210
80°	937	1864	2259
85°	668	1848	2161



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.8	3.1
10°-20°	342.4	8.9
20°-30°	517.2	13.5
30°-40°	623.3	16.2
40°-50°	654.4	17.1
50°-60°	612.2	16.0
60°-70°	505.6	13.2
70°-80°	344.5	9.0
80°-90°	117.5	3.1
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°	979.4	25.5
0°-40°	1602.7	41.8
0°-60°	2869.4	74.8
0°-90°	3837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3837.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1265	1265	1265	1265	1265	
5°	1263	1262	1255	1263	1263	120
15°	1207	1208	1209	1222	1225	340
25°	1101	1106	1119	1141	1147	507
35°	957	968	993	1026	1036	598
45°	788	805	845	891	908	608
55°	605	629	685	741	763	540
65°	409	443	514	579	602	405
75°	211	260	339	402	425	225
85°	43	85	120	135	140	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1265.4	1265.4	1265.4	1265.4	1265.4
2.5°	1266.7	1265.4	1259.0	1265.4	1264.1
5°	1262.9	1261.6	1255.2	1262.9	1262.9
7.5°	1254.0	1254.0	1247.6	1256.5	1257.8
10°	1241.2	1241.2	1237.4	1247.6	1247.6
12.5°	1225.9	1225.9	1225.9	1236.1	1237.4
15°	1206.8	1208.1	1209.4	1222.1	1224.7
17.5°	1183.9	1186.5	1190.3	1205.6	1208.1
20°	1159.7	1162.3	1168.7	1186.5	1190.3
22.5°	1129.2	1135.6	1144.5	1164.8	1168.7
25°	1101.2	1106.3	1119.0	1140.7	1147.0
27.5°	1066.8	1074.5	1091.0	1113.9	1122.8
30°	1032.4	1040.1	1060.4	1087.2	1094.8
32.5°	995.5	1007.0	1028.6	1056.6	1065.5
35°	957.3	967.5	993.0	1026.1	1036.3
37.5°	915.3	929.3	957.3	993.0	1005.7
40°	874.6	889.9	921.7	959.9	975.2
42.5°	833.8	849.1	884.8	928.1	943.3
45°	788.0	804.6	845.3	891.1	907.7
47.5°	742.2	762.6	807.1	855.5	873.3
50°	695.1	718.0	766.4	817.3	837.7
52.5°	653.1	674.7	725.6	780.4	799.5
55°	604.7	628.9	684.9	740.9	762.6
57.5°	555.0	581.8	641.6	702.7	724.4
60°	506.7	536.0	602.2	663.3	687.4
62.5°	459.6	488.9	557.6	621.2	645.4
65°	408.6	443.0	514.3	579.2	602.2
67.5°	360.3	397.2	472.3	536.0	558.9
70°	313.2	348.8	429.0	491.4	514.3
72.5°	262.2	303.0	383.2	448.1	472.3
75°	211.3	259.7	338.6	402.3	425.2
77.5°	164.2	213.9	292.8	345.0	356.5
80°	120.9	171.9	240.6	277.5	291.5
82.5°	77.7	128.6	183.3	210.1	221.5
85°	43.3	85.3	119.7	134.9	140.0
87.5°	17.8	36.9	48.4	54.7	54.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)