

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: P310778

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP125-W2A-U-2700K**

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: P310778  
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-L82765-CP125-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB SHEET  
Light Source: (336) 2700K 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**

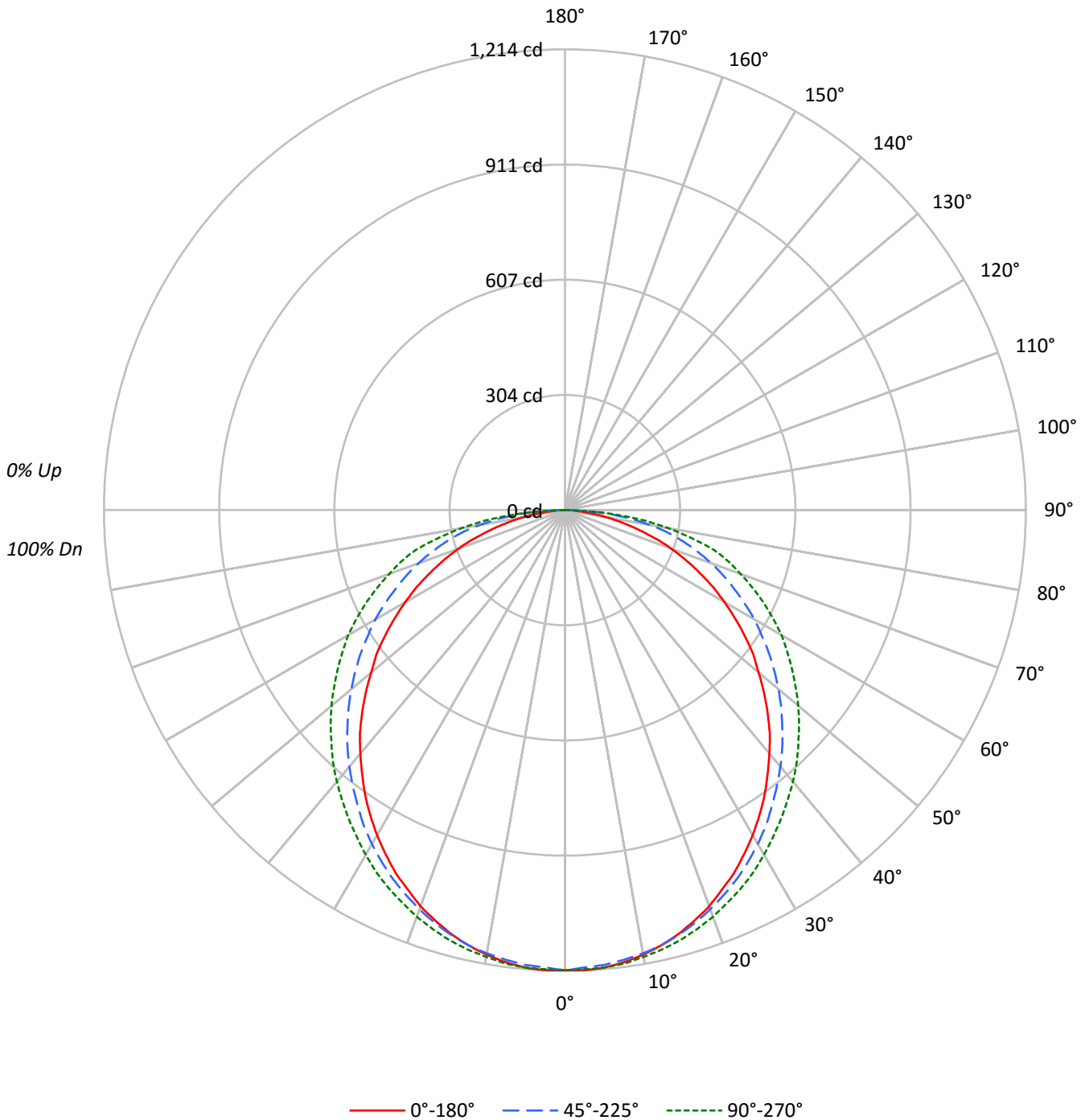
Lumens per Lamp: N/A  
Luminaire Lumens: 3676.0 lumens  
Efficiency: N/A  
Efficacy: 108.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1631	1631	1631
5°	1634	1624	1634
10°	1625	1620	1633
15°	1611	1614	1634
20°	1591	1603	1633
25°	1566	1592	1631
30°	1537	1578	1630
35°	1507	1563	1631
40°	1472	1551	1641
45°	1437	1541	1655
50°	1394	1537	1680
55°	1359	1539	1714
60°	1306	1552	1772
65°	1246	1569	1837
70°	1180	1617	1938
75°	1053	1686	2118
80°	898	1786	2164
85°	641	1769	2072



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	3.1
10°-20°	328.1	8.9
20°-30°	495.5	13.5
30°-40°	597.2	16.2
40°-50°	626.9	17.1
50°-60°	586.5	16.0
60°-70°	484.4	13.2
70°-80°	330.1	9.0
80°-90°	112.6	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°	938.3	25.5
0°-40°	1535.5	41.8
0°-60°	2749.0	74.8
0°-90°	3676.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3676.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1212	1212	1212	1212	1212	
5°	1210	1209	1203	1210	1210	115
15°	1156	1157	1159	1171	1173	326
25°	1055	1060	1072	1093	1099	485
35°	917	927	951	983	993	573
45°	755	771	810	854	870	582
55°	579	602	656	710	731	517
65°	392	424	493	555	577	388
75°	202	249	324	385	407	216
85°	42	82	115	129	134	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1212.3	1212.3	1212.3	1212.3	1212.3
2.5°	1213.5	1212.3	1206.2	1212.3	1211.1
5°	1209.9	1208.7	1202.6	1209.9	1209.9
7.5°	1201.3	1201.3	1195.2	1203.8	1205.0
10°	1189.1	1189.1	1185.5	1195.2	1195.2
12.5°	1174.5	1174.5	1174.5	1184.3	1185.5
15°	1156.2	1157.4	1158.6	1170.8	1173.3
17.5°	1134.3	1136.7	1140.4	1155.0	1157.4
20°	1111.1	1113.5	1119.6	1136.7	1140.4
22.5°	1081.8	1087.9	1096.4	1116.0	1119.6
25°	1055.0	1059.9	1072.1	1092.8	1098.9
27.5°	1022.1	1029.4	1045.2	1067.2	1075.7
30°	989.1	996.4	1016.0	1041.6	1048.9
32.5°	953.8	964.7	985.5	1012.3	1020.8
35°	917.2	926.9	951.3	983.0	992.8
37.5°	876.9	890.3	917.2	951.3	963.5
40°	837.9	852.5	883.0	919.6	934.2
42.5°	798.9	813.5	847.6	889.1	903.7
45°	755.0	770.8	809.8	853.7	869.6
47.5°	711.0	730.6	773.2	819.6	836.7
50°	665.9	687.9	734.2	783.0	802.5
52.5°	625.7	646.4	695.2	747.6	765.9
55°	579.3	602.5	656.2	709.8	730.6
57.5°	531.8	557.4	614.7	673.2	694.0
60°	485.4	513.5	576.9	635.4	658.6
62.5°	440.3	468.3	534.2	595.2	618.4
65°	391.5	424.4	492.7	554.9	576.9
67.5°	345.2	380.5	452.5	513.5	535.4
70°	300.0	334.2	411.0	470.8	492.7
72.5°	251.2	290.3	367.1	429.3	452.5
75°	202.5	248.8	324.4	385.4	407.4
77.5°	157.3	204.9	280.5	330.5	341.5
80°	115.9	164.7	230.5	265.9	279.3
82.5°	74.4	123.2	175.6	201.2	212.2
85°	41.5	81.7	114.6	129.3	134.2
87.5°	17.1	35.4	46.3	52.4	52.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)