

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: P313951

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP125-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: P313951  
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-CP125-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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**

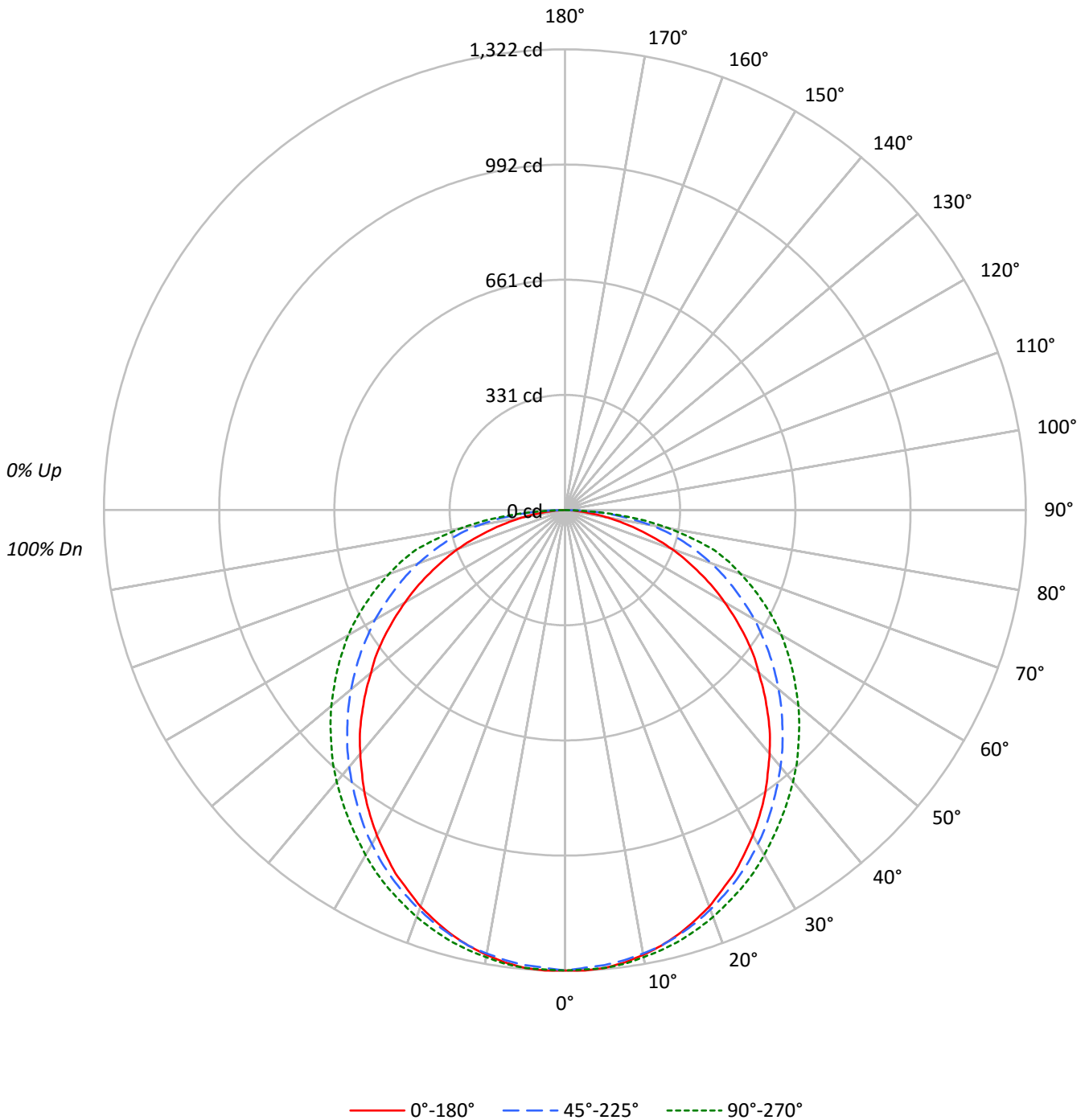
Lumens per Lamp: N/A  
Luminaire Lumens: 4006.0 lumens  
Efficiency: N/A  
Efficacy: 118.5 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1778	1778	1778
5°	1781	1770	1781
10°	1771	1765	1780
15°	1755	1759	1781
20°	1734	1747	1779
25°	1707	1734	1778
30°	1675	1720	1776
35°	1642	1703	1777
40°	1604	1690	1788
45°	1565	1679	1803
50°	1519	1675	1831
55°	1481	1677	1867
60°	1424	1692	1931
65°	1358	1710	2002
70°	1286	1762	2113
75°	1147	1838	2308
80°	979	1946	2359
85°	698	1928	2257



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.0	3.1
10°-20°	357.5	8.9
20°-30°	540.0	13.5
30°-40°	650.8	16.2
40°-50°	683.2	17.1
50°-60°	639.2	16.0
60°-70°	527.9	13.2
70°-80°	359.7	9.0
80°-90°	122.7	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°	1022.5	25.5
0°-40°	1673.3	41.8
0°-60°	2995.8	74.8
0°-90°	4006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4006.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1321	1321	1321	1321	1321	
5°	1318	1317	1310	1318	1318	125
15°	1260	1261	1263	1276	1279	355
25°	1150	1155	1168	1191	1198	529
35°	1000	1010	1037	1071	1082	625
45°	823	840	882	930	948	635
55°	631	657	715	774	796	563
65°	427	462	537	605	629	423
75°	221	271	354	420	444	235
85°	45	89	125	141	146	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1321.1	1321.1	1321.1	1321.1	1321.1
2.5°	1322.5	1321.1	1314.5	1321.1	1319.8
5°	1318.5	1317.2	1310.5	1318.5	1318.5
7.5°	1309.2	1309.2	1302.5	1311.8	1313.2
10°	1295.9	1295.9	1291.9	1302.5	1302.5
12.5°	1279.9	1279.9	1279.9	1290.6	1291.9
15°	1260.0	1261.3	1262.7	1276.0	1278.6
17.5°	1236.1	1238.7	1242.7	1258.7	1261.3
20°	1210.8	1213.5	1220.1	1238.7	1242.7
22.5°	1178.9	1185.6	1194.9	1216.1	1220.1
25°	1149.7	1155.0	1168.3	1190.9	1197.5
27.5°	1113.8	1121.8	1139.1	1163.0	1172.3
30°	1077.9	1085.9	1107.2	1135.1	1143.0
32.5°	1039.4	1051.3	1073.9	1103.2	1112.5
35°	999.5	1010.1	1036.7	1071.3	1081.9
37.5°	955.6	970.3	999.5	1036.7	1050.0
40°	913.1	929.1	962.3	1002.2	1018.1
42.5°	870.6	886.5	923.7	968.9	984.9
45°	822.7	840.0	882.5	930.4	947.7
47.5°	774.9	796.1	842.7	893.2	911.8
50°	725.7	749.6	800.1	853.3	874.6
52.5°	681.8	704.4	757.6	814.7	834.7
55°	631.3	656.6	715.1	773.5	796.1
57.5°	579.5	607.4	669.9	733.7	756.3
60°	529.0	559.6	628.7	692.5	717.7
62.5°	479.8	510.4	582.2	648.6	673.9
65°	426.6	462.5	537.0	604.7	628.7
67.5°	376.1	414.7	493.1	559.6	583.5
70°	327.0	364.2	447.9	513.0	537.0
72.5°	273.8	316.3	400.1	467.8	493.1
75°	220.6	271.1	353.5	420.0	443.9
77.5°	171.5	223.3	305.7	360.2	372.2
80°	126.3	179.4	251.2	289.7	304.4
82.5°	81.1	134.2	191.4	219.3	231.3
85°	45.2	89.1	124.9	140.9	146.2
87.5°	18.6	38.5	50.5	57.2	57.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)