

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: P314330

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CP187-W2A-U-3000K**

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: P314330  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-S-CP187-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 3000K 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**

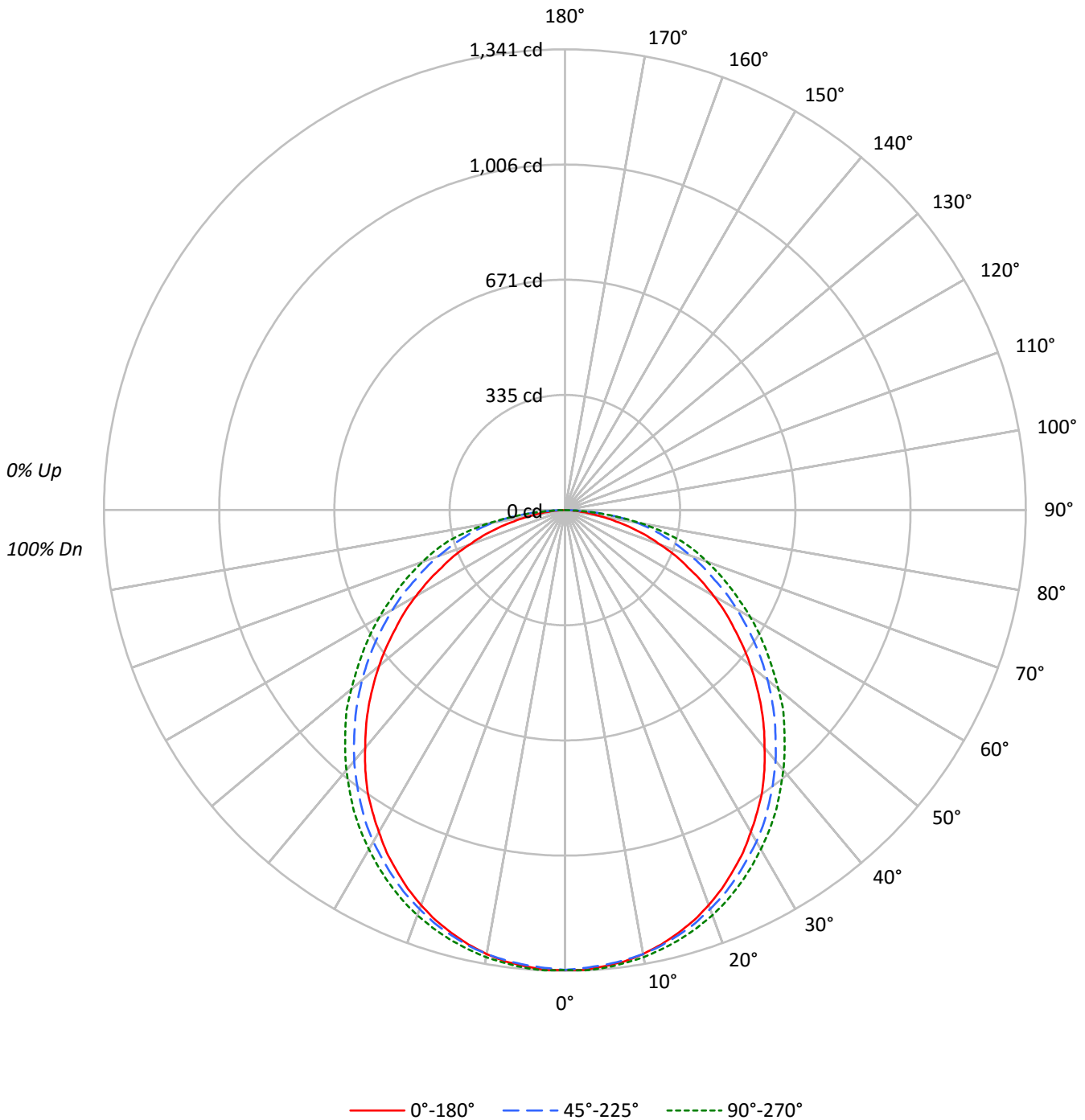
Lumens per Lamp: N/A  
Luminaire Lumens: 3810.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1801	1801	1801
5°	1800	1795	1806
10°	1792	1792	1805
15°	1775	1784	1802
20°	1752	1769	1797
25°	1719	1752	1786
30°	1681	1732	1771
35°	1644	1703	1757
40°	1588	1675	1737
45°	1536	1642	1718
50°	1477	1611	1697
55°	1411	1581	1681
60°	1345	1557	1677
65°	1260	1529	1688
70°	1166	1538	1733
75°	1044	1566	1831
80°	844	1660	1791
85°	634	1457	1420



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.7	3.3
10°-20°	362.1	9.5
20°-30°	544.3	14.3
30°-40°	648.3	17.0
40°-50°	663.5	17.4
50°-60°	597.4	15.7
60°-70°	469.1	12.3
70°-80°	304.5	8.0
80°-90°	94.2	2.5
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°	1033.0	27.1
0°-40°	1681.4	44.1
0°-60°	2942.3	77.2
0°-90°	3810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3810.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1338	1338	1338	1338	1338	
5°	1332	1335	1329	1336	1337	127
15°	1274	1278	1280	1291	1294	359
25°	1158	1168	1180	1199	1203	534
35°	1001	1013	1037	1063	1070	624
45°	807	827	863	896	903	622
55°	602	628	674	709	716	539
65°	396	426	480	520	530	394
75°	201	240	301	342	352	213
85°	41	76	94	92	92	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1338.5	1338.5	1338.5	1338.5	1338.5
2.5°	1339.7	1339.7	1333.6	1339.7	1340.9
5°	1332.4	1334.8	1328.8	1336.1	1337.3
7.5°	1325.2	1325.2	1321.5	1328.8	1330.0
10°	1311.9	1313.1	1311.9	1320.3	1321.5
12.5°	1294.9	1297.3	1298.5	1307.0	1308.2
15°	1274.3	1278.0	1280.4	1291.3	1293.7
17.5°	1251.3	1255.0	1261.0	1273.1	1275.5
20°	1223.5	1228.3	1235.6	1251.3	1255.0
22.5°	1193.3	1198.1	1210.2	1224.7	1230.8
25°	1158.2	1167.8	1179.9	1199.3	1202.9
27.5°	1123.1	1131.5	1147.3	1167.8	1172.7
30°	1081.9	1095.2	1114.6	1135.2	1140.0
32.5°	1042.0	1055.3	1078.3	1100.1	1106.1
35°	1000.8	1012.9	1037.1	1062.6	1069.8
37.5°	953.6	969.4	996.0	1021.4	1028.7
40°	904.0	923.4	953.6	980.3	988.7
42.5°	856.8	877.4	907.6	936.7	946.4
45°	807.2	826.6	862.9	895.5	902.8
47.5°	756.4	778.2	816.9	849.6	861.7
50°	705.5	728.5	769.7	803.6	810.8
52.5°	654.7	678.9	722.5	758.8	762.4
55°	601.5	628.1	674.1	709.2	716.4
57.5°	553.1	576.1	625.7	662.0	670.4
60°	499.8	525.2	578.5	612.4	623.3
62.5°	449.0	475.6	531.3	565.2	574.8
65°	395.7	426.0	480.4	520.4	530.1
67.5°	349.7	378.8	436.9	475.6	485.3
70°	296.5	329.2	390.9	430.8	440.5
72.5°	250.5	284.4	346.1	384.8	399.4
75°	200.9	239.6	301.3	342.5	352.2
77.5°	152.5	197.3	260.2	291.7	291.7
80°	108.9	156.1	214.2	228.7	231.1
82.5°	71.4	117.4	158.5	157.3	157.3
85°	41.1	76.2	94.4	92.0	92.0
87.5°	15.7	31.5	33.9	33.9	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)