

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: P310767

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA08-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: P310767  
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-CA08-W2A-U-5700K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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**

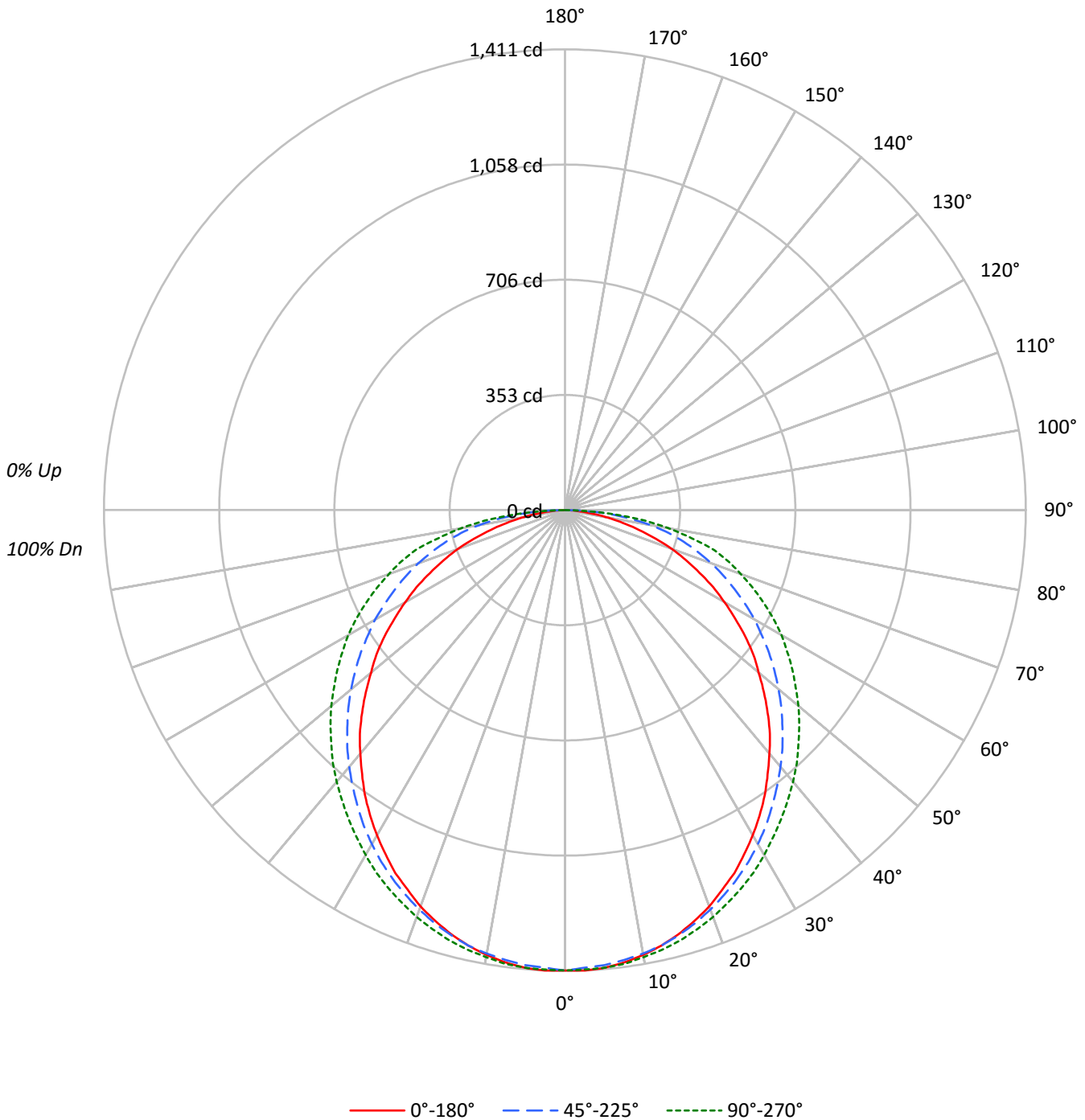
Lumens per Lamp: N/A  
Luminaire Lumens: 4275.0 lumens  
Efficiency: N/A  
Efficacy: 123.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1897	1897	1897
5°	1900	1889	1900
10°	1889	1884	1899
15°	1873	1877	1901
20°	1850	1864	1899
25°	1821	1851	1897
30°	1787	1836	1895
35°	1752	1817	1896
40°	1711	1804	1908
45°	1671	1792	1924
50°	1621	1787	1954
55°	1580	1790	1993
60°	1519	1805	2061
65°	1450	1824	2136
70°	1373	1880	2254
75°	1224	1961	2463
80°	1044	2077	2517
85°	744	2058	2408



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.4	3.1
10°-20°	381.5	8.9
20°-30°	576.2	13.5
30°-40°	694.5	16.2
40°-50°	729.1	17.1
50°-60°	682.1	16.0
60°-70°	563.3	13.2
70°-80°	383.8	9.0
80°-90°	130.9	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°	1091.2	25.5
0°-40°	1785.7	41.8
0°-60°	3196.9	74.8
0°-90°	4275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4275.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1410	1410	1410	1410	1410	
5°	1407	1406	1398	1407	1407	134
15°	1345	1346	1347	1362	1364	379
25°	1227	1233	1247	1271	1278	565
35°	1067	1078	1106	1143	1155	667
45°	878	896	942	993	1011	677
55°	674	701	763	826	850	601
65°	455	494	573	645	671	452
75°	235	289	377	448	474	251
85°	48	95	133	150	156	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1409.9	1409.9	1409.9	1409.9	1409.9
2.5°	1411.3	1409.9	1402.8	1409.9	1408.4
5°	1407.0	1405.6	1398.5	1407.0	1407.0
7.5°	1397.1	1397.1	1390.0	1399.9	1401.3
10°	1382.9	1382.9	1378.7	1390.0	1390.0
12.5°	1365.9	1365.9	1365.9	1377.2	1378.7
15°	1344.6	1346.0	1347.4	1361.6	1364.5
17.5°	1319.1	1321.9	1326.2	1343.2	1346.0
20°	1292.1	1295.0	1302.1	1321.9	1326.2
22.5°	1258.1	1265.2	1275.1	1297.8	1302.1
25°	1226.9	1232.6	1246.7	1270.9	1277.9
27.5°	1188.6	1197.1	1215.5	1241.1	1251.0
30°	1150.3	1158.8	1181.5	1211.3	1219.8
32.5°	1109.2	1121.9	1146.0	1177.2	1187.2
35°	1066.6	1078.0	1106.3	1143.2	1154.6
37.5°	1019.8	1035.4	1066.6	1106.3	1120.5
40°	974.4	991.4	1026.9	1069.4	1086.5
42.5°	929.0	946.1	985.8	1034.0	1051.0
45°	878.0	896.4	941.8	992.9	1011.3
47.5°	826.9	849.6	899.2	953.1	973.0
50°	774.4	800.0	853.9	910.6	933.3
52.5°	727.6	751.7	808.5	869.5	890.7
55°	673.7	700.7	763.1	825.5	849.6
57.5°	618.4	648.2	714.9	782.9	807.1
60°	564.5	597.1	670.9	739.0	765.9
62.5°	512.0	544.7	621.2	692.2	719.1
65°	455.3	493.6	573.0	645.4	670.9
67.5°	401.4	442.5	526.2	597.1	622.7
70°	348.9	388.6	478.0	547.5	573.0
72.5°	292.2	337.6	426.9	499.3	526.2
75°	235.4	289.3	377.3	448.2	473.7
77.5°	183.0	238.3	326.2	384.4	397.1
80°	134.7	191.5	268.1	309.2	324.8
82.5°	86.5	143.3	204.2	234.0	246.8
85°	48.2	95.0	133.3	150.3	156.0
87.5°	19.9	41.1	53.9	61.0	61.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)