

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: P313190

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CA08-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: P313190  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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**

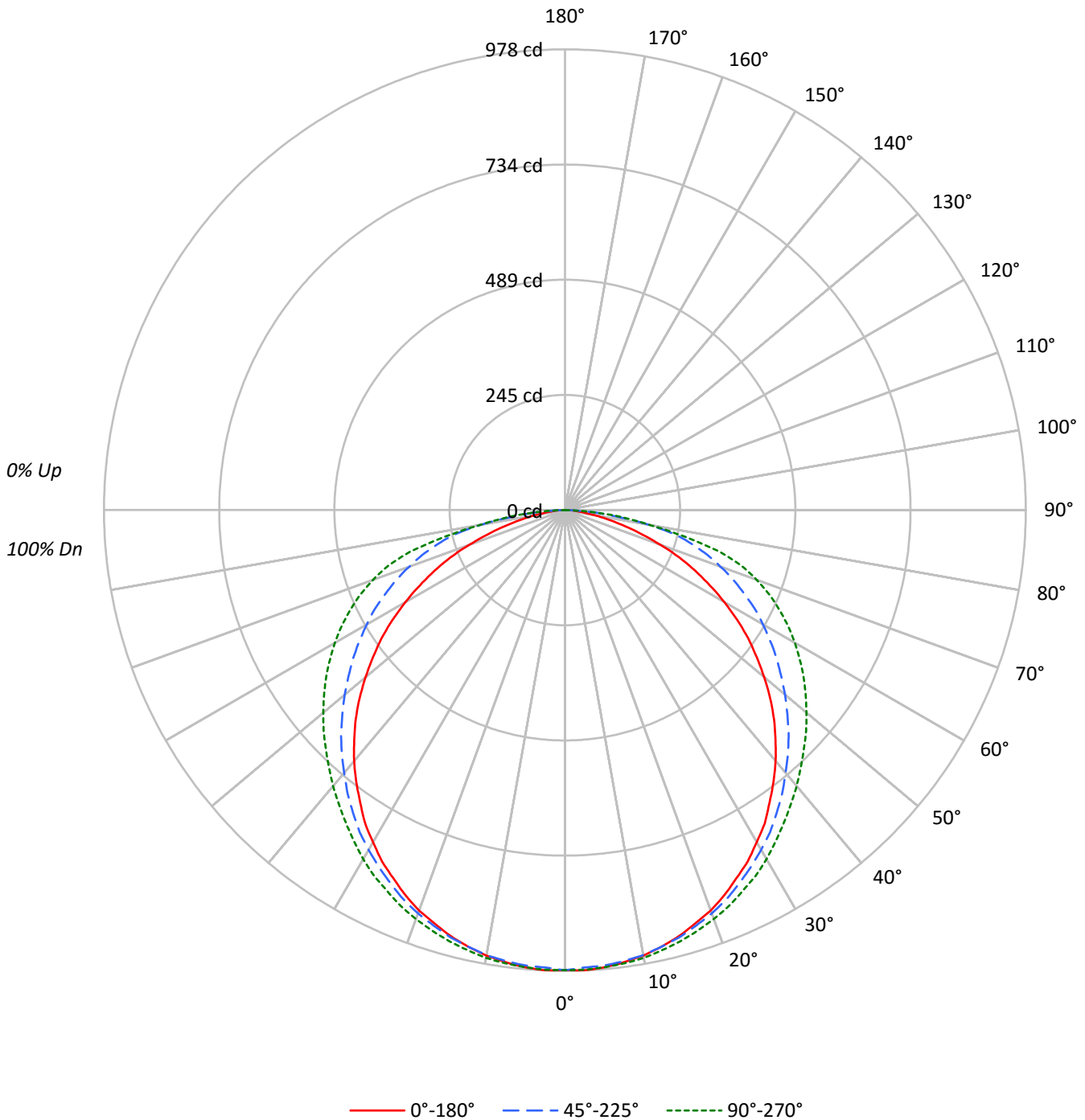
Lumens per Lamp: N/A  
Luminaire Lumens: 3010.0 lumens  
Efficiency: N/A  
Efficacy: 89.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	1314	1314	1314
5°	1316	1311	1316
10°	1312	1310	1319
15°	1304	1308	1320
20°	1296	1305	1323
25°	1280	1298	1325
30°	1265	1294	1329
35°	1244	1287	1331
40°	1222	1279	1343
45°	1194	1278	1364
50°	1155	1277	1401
55°	1114	1286	1451
60°	1051	1305	1516
65°	971	1336	1601
70°	848	1383	1705
75°	688	1454	1762
80°	508	1426	1426
85°	389	1050	1187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.5	3.1
10°-20°	265.7	8.8
20°-30°	404.4	13.4
30°-40°	491.1	16.3
40°-50°	518.8	17.2
50°-60°	489.6	16.3
60°-70°	407.1	13.5
70°-80°	267.8	8.9
80°-90°	73.0	2.4
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°	762.6	25.3
0°-40°	1253.7	41.7
0°-60°	2262.1	75.2
0°-90°	3010.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3010.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	977	977	977	977	977	
5°	974	974	970	974	974	93
15°	936	938	939	948	948	264
25°	862	867	874	890	892	398
35°	757	766	784	804	810	474
45°	628	640	672	704	717	483
55°	475	495	548	600	619	423
65°	305	340	420	481	503	301
75°	132	193	280	331	339	143
85°	25	55	68	76	77	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	976.6	976.6	976.6	976.6	976.6
2.5°	977.9	976.6	971.6	976.6	976.6
5°	974.1	974.1	970.3	974.1	974.1
7.5°	967.8	967.8	965.3	970.3	970.3
10°	960.2	960.2	959.0	965.3	965.3
12.5°	948.9	950.1	948.9	956.4	956.4
15°	936.3	937.5	938.8	947.6	947.6
17.5°	919.9	922.4	924.9	935.0	936.3
20°	904.8	906.0	911.1	922.4	923.7
22.5°	884.6	888.4	894.7	906.0	909.8
25°	861.9	867.0	874.5	889.6	892.2
27.5°	840.5	844.3	854.4	870.7	875.8
30°	814.0	820.3	832.9	849.3	855.6
32.5°	788.8	795.1	810.3	827.9	832.9
35°	757.3	766.2	783.8	804.0	810.3
37.5°	727.1	735.9	757.3	780.0	787.6
40°	695.6	705.7	728.4	754.8	764.9
42.5°	661.6	675.4	700.6	729.6	741.0
45°	627.5	640.1	671.6	704.4	717.0
47.5°	591.0	606.1	640.1	679.2	694.3
50°	551.9	570.8	609.9	652.7	669.1
52.5°	512.9	534.3	578.4	626.3	643.9
55°	475.1	495.2	548.2	599.8	618.7
57.5°	433.5	458.7	516.7	572.1	591.0
60°	390.6	418.4	485.1	543.1	563.3
62.5°	347.8	379.3	454.9	512.9	534.3
65°	305.0	340.2	419.6	481.4	502.8
67.5°	263.4	302.4	386.9	448.6	470.0
70°	215.5	264.6	351.6	412.1	433.5
72.5°	171.4	228.1	317.6	374.3	393.2
75°	132.3	192.8	279.7	331.4	339.0
77.5°	97.0	157.5	240.7	258.3	259.6
80°	65.5	126.0	184.0	181.5	184.0
82.5°	42.8	94.5	115.9	129.8	131.1
85°	25.2	55.4	68.0	75.6	76.9
87.5°	12.6	18.9	23.9	25.2	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)