

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: P309431

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4000K**

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: P309431  
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-L82765-HRP-CP125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB SHEET  
Light Source: (336) 4000K 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: 3034.0 lumens  
Efficiency: N/A  
Efficacy: 88.7 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

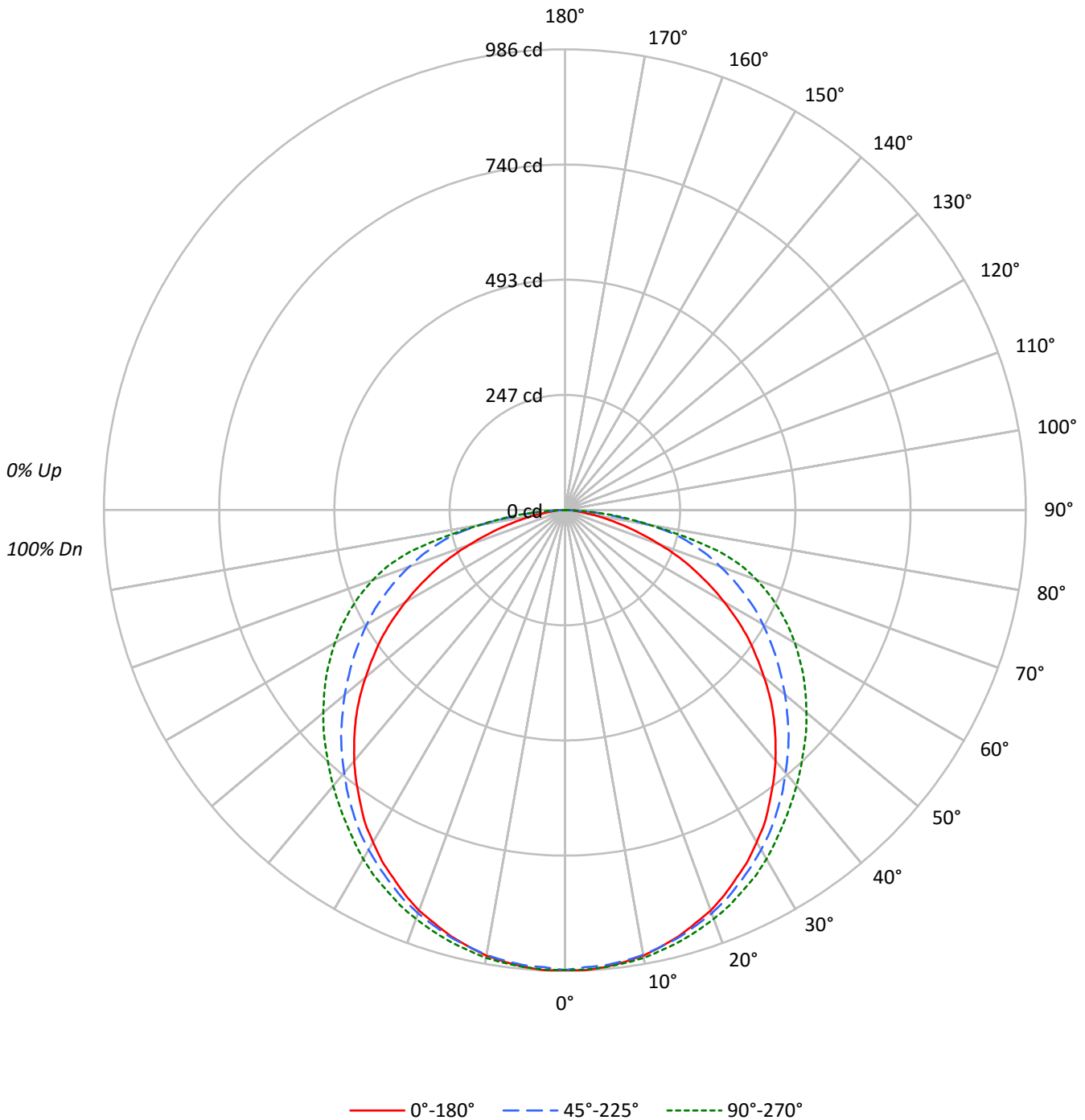
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1324	1324	1324
5°	1326	1321	1326
10°	1322	1321	1329
15°	1315	1318	1331
20°	1306	1315	1333
25°	1290	1309	1335
30°	1275	1304	1340
35°	1254	1298	1341
40°	1231	1290	1354
45°	1204	1288	1375
50°	1164	1287	1412
55°	1123	1296	1463
60°	1060	1316	1528
65°	979	1347	1613
70°	854	1394	1719
75°	693	1466	1776
80°	511	1437	1437
85°	392	1059	1196



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.3	3.1
10°-20°	267.8	8.8
20°-30°	407.7	13.4
30°-40°	495.0	16.3
40°-50°	523.0	17.2
50°-60°	493.5	16.3
60°-70°	410.3	13.5
70°-80°	269.9	8.9
80°-90°	73.6	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°	768.7	25.3
0°-40°	1263.7	41.7
0°-60°	2280.2	75.2
0°-90°	3034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3034.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	984	984	984	984	984	
5°	982	982	978	982	982	93
15°	944	945	946	955	955	266
25°	869	874	882	897	899	401
35°	763	772	790	810	817	478
45°	632	645	677	710	723	487
55°	479	499	552	605	624	427
65°	307	343	423	485	507	304
75°	133	194	282	334	342	144
85°	25	56	69	76	78	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	984.4	984.4	984.4	984.4	984.4
2.5°	985.7	984.4	979.3	984.4	984.4
5°	981.8	981.8	978.0	981.8	981.8
7.5°	975.5	975.5	973.0	978.0	978.0
10°	967.9	967.9	966.6	973.0	973.0
12.5°	956.4	957.7	956.4	964.1	964.1
15°	943.7	945.0	946.3	955.2	955.2
17.5°	927.2	929.8	932.3	942.5	943.7
20°	912.0	913.3	918.3	929.8	931.0
22.5°	891.7	895.5	901.8	913.3	917.1
25°	868.8	873.9	881.5	896.7	899.3
27.5°	847.2	851.0	861.2	877.7	882.8
30°	820.5	826.9	839.6	856.1	862.4
32.5°	795.1	801.5	816.7	834.5	839.6
35°	763.4	772.3	790.0	810.4	816.7
37.5°	732.9	741.8	763.4	786.2	793.9
40°	701.1	711.3	734.2	760.8	771.0
42.5°	666.8	680.8	706.2	735.4	746.9
45°	632.5	645.2	677.0	710.0	722.7
47.5°	595.7	611.0	645.2	684.6	699.9
50°	556.3	575.4	614.8	657.9	674.5
52.5°	517.0	538.6	583.0	631.3	649.1
55°	478.9	499.2	552.5	604.6	623.7
57.5°	436.9	462.3	520.8	576.7	595.7
60°	393.8	421.7	489.0	547.4	567.8
62.5°	350.6	382.3	458.5	517.0	538.6
65°	307.4	342.9	423.0	485.2	506.8
67.5°	265.5	304.8	389.9	452.2	473.8
70°	217.2	266.7	354.4	415.3	436.9
72.5°	172.7	229.9	320.1	377.2	396.3
75°	133.4	194.3	282.0	334.1	341.7
77.5°	97.8	158.8	242.6	260.4	261.7
80°	66.0	127.0	185.4	182.9	185.4
82.5°	43.2	95.3	116.9	130.8	132.1
85°	25.4	55.9	68.6	76.2	77.5
87.5°	12.7	19.1	24.1	25.4	27.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)