

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: P309451

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP250-W2A-U-5000K**

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: P309451
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5000K 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: 2972.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

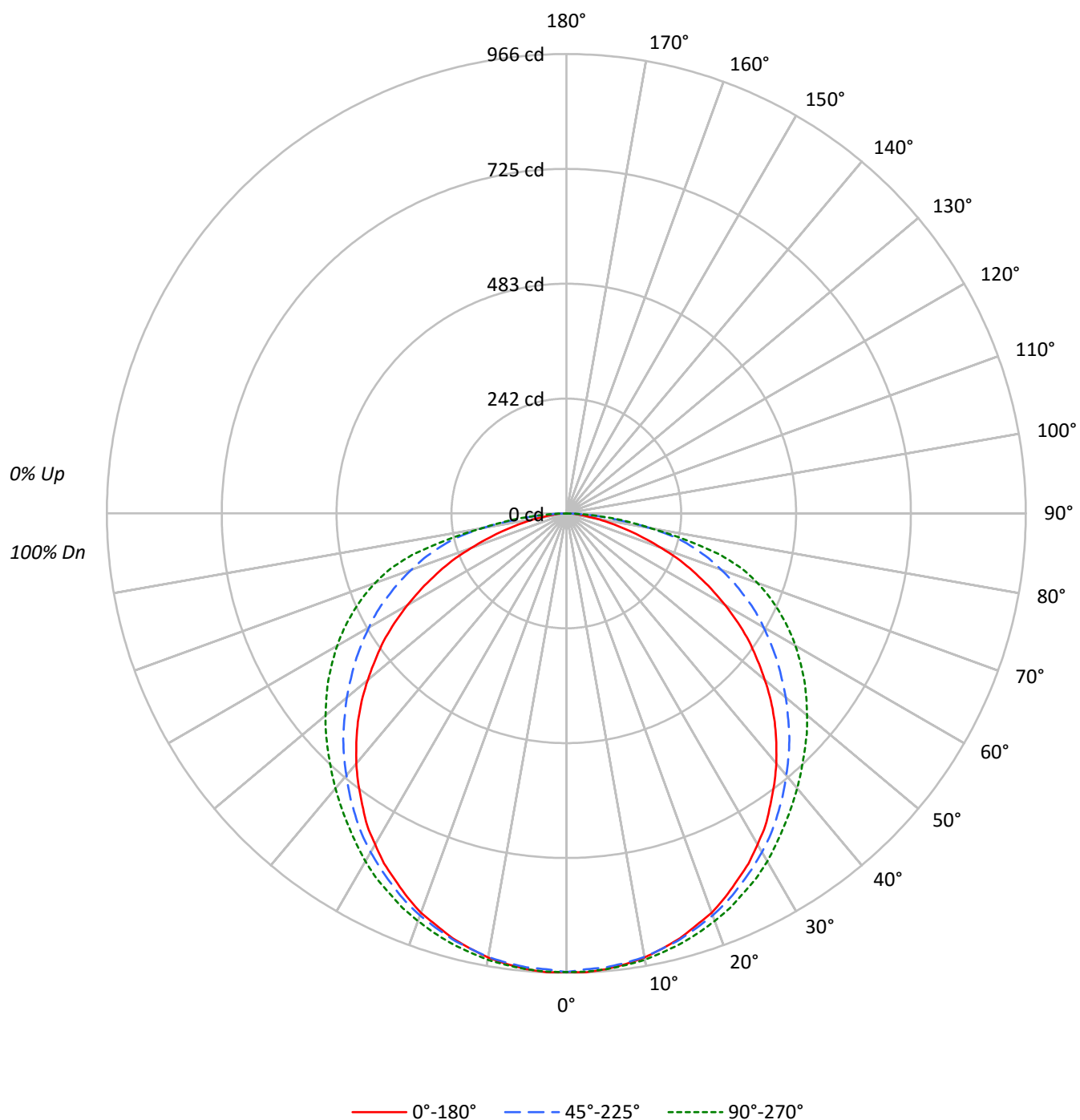
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1297	1297	1297
5°	1299	1294	1299
10°	1295	1294	1302
15°	1288	1291	1303
20°	1279	1288	1306
25°	1263	1282	1308
30°	1249	1278	1313
35°	1228	1271	1314
40°	1206	1263	1326
45°	1179	1262	1347
50°	1141	1261	1383
55°	1100	1270	1433
60°	1038	1289	1497
65°	959	1319	1580
70°	837	1365	1684
75°	679	1436	1740
80°	501	1408	1408
85°	384	1037	1172



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.3	3.1
10°-20°	262.3	8.8
20°-30°	399.3	13.4
30°-40°	484.9	16.3
40°-50°	512.3	17.2
50°-60°	483.4	16.3
60°-70°	401.9	13.5
70°-80°	264.4	8.9
80°-90°	72.1	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°	753.0	25.3
0°-40°	1237.9	41.7
0°-60°	2233.6	75.2
0°-90°	2972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	964	964	964	964	964	
5°	962	962	958	962	962	91
15°	924	926	927	936	936	261
25°	851	856	864	878	881	393
35°	748	756	774	794	800	468
45°	620	632	663	696	708	477
55°	469	489	541	592	611	418
65°	301	336	414	475	496	298
75°	131	190	276	327	335	141
85°	25	55	67	75	76	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	964.3	964.3	964.3	964.3	964.3
2.5°	965.5	964.3	959.3	964.3	964.3
5°	961.8	961.8	958.0	961.8	961.8
7.5°	955.6	955.6	953.1	958.0	958.0
10°	948.1	948.1	946.8	953.1	953.1
12.5°	936.9	938.1	936.9	944.4	944.4
15°	924.5	925.7	926.9	935.7	935.7
17.5°	908.3	910.8	913.3	923.2	924.5
20°	893.3	894.6	899.6	910.8	912.0
22.5°	873.4	877.2	883.4	894.6	898.3
25°	851.0	856.0	863.5	878.4	880.9
27.5°	829.9	833.6	843.6	859.8	864.7
30°	803.8	810.0	822.4	838.6	844.8
32.5°	778.9	785.1	800.0	817.5	822.4
35°	747.8	756.5	773.9	793.8	800.0
37.5°	717.9	726.6	747.8	770.2	777.6
40°	686.8	696.8	719.2	745.3	755.2
42.5°	653.2	666.9	691.8	720.4	731.6
45°	619.6	632.1	663.2	695.5	708.0
47.5°	583.5	598.5	632.1	670.6	685.6
50°	545.0	563.6	602.2	644.5	660.7
52.5°	506.4	527.5	571.1	618.4	635.8
55°	469.1	489.0	541.2	592.2	610.9
57.5°	428.0	452.9	510.1	564.9	583.5
60°	385.7	413.1	479.0	536.3	556.2
62.5°	343.4	374.5	449.2	506.4	527.5
65°	301.1	335.9	414.3	475.3	496.4
67.5°	260.0	298.6	382.0	442.9	464.1
70°	212.8	261.3	347.1	406.9	428.0
72.5°	169.2	225.2	313.5	369.5	388.2
75°	130.6	190.4	276.2	327.2	334.7
77.5°	95.8	155.5	237.6	255.1	256.3
80°	64.7	124.4	181.7	179.2	181.7
82.5°	42.3	93.3	114.5	128.2	129.4
85°	24.9	54.7	67.2	74.7	75.9
87.5°	12.4	18.7	23.6	24.9	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)