

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: P309432

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4500K**

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: P309432
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125"
POLYCARB SHEET
Light Source: (336) 4500K 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: 3087.0 lumens
Efficiency: N/A
Efficacy: 89.7 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

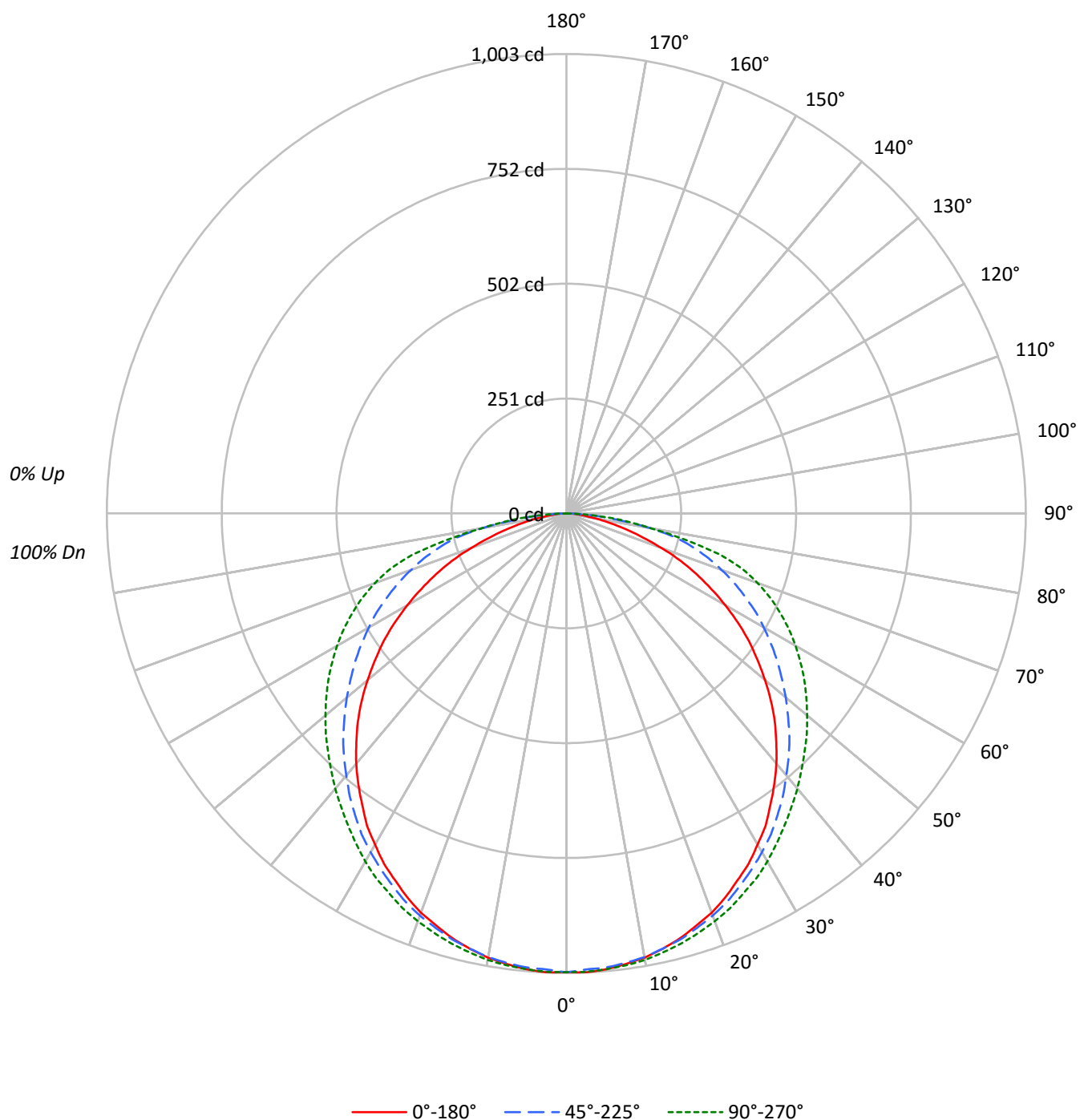
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309432

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P309432

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4500K

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°	1348	1348	1348
5°	1349	1344	1349
10°	1345	1344	1352
15°	1338	1341	1354
20°	1329	1338	1356
25°	1312	1332	1358
30°	1297	1327	1363
35°	1276	1320	1365
40°	1253	1312	1378
45°	1225	1311	1399
50°	1185	1309	1436
55°	1143	1319	1488
60°	1078	1339	1555
65°	996	1370	1642
70°	869	1419	1749
75°	705	1491	1807
80°	521	1462	1462
85°	398	1078	1216



TEST NUMBER: P309432

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.9	3.1
10°-20°	272.5	8.8
20°-30°	414.8	13.4
30°-40°	503.7	16.3
40°-50°	532.1	17.2
50°-60°	502.1	16.3
60°-70°	417.5	13.5
70°-80°	274.6	8.9
80°-90°	74.9	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°	782.1	25.3
0°-40°	1285.8	41.7
0°-60°	2320.0	75.2
0°-90°	3087.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3087.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1002	1002	1002	1002	1002	
5°	999	999	995	999	999	95
15°	960	962	963	972	972	271
25°	884	889	897	912	915	408
35°	777	786	804	824	831	486
45°	644	656	689	722	735	496
55°	487	508	562	615	634	434
65°	313	349	430	494	516	309
75°	136	198	287	340	348	146
85°	26	57	70	78	79	32
90°	0	0	0	0	0	



TEST NUMBER: P309432

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-HRP-CP125-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1002.9	1001.6	996.4	1001.6	1001.6
5°	999.0	999.0	995.1	999.0	999.0
7.5°	992.5	992.5	989.9	995.1	995.1
10°	984.8	984.8	983.5	989.9	989.9
12.5°	973.1	974.4	973.1	980.9	980.9
15°	960.2	961.5	962.8	971.9	971.9
17.5°	943.4	946.0	948.6	958.9	960.2
20°	927.9	929.2	934.4	946.0	947.3
22.5°	907.2	911.1	917.6	929.2	933.1
25°	884.0	889.1	896.9	912.4	915.0
27.5°	862.0	865.9	876.2	893.0	898.2
30°	834.9	841.3	854.3	871.1	877.5
32.5°	809.0	815.5	831.0	849.1	854.3
35°	776.7	785.8	803.8	824.5	831.0
37.5°	745.7	754.7	776.7	800.0	807.7
40°	713.4	723.7	747.0	774.1	784.5
42.5°	678.5	692.7	718.6	748.3	759.9
45°	643.6	656.5	688.8	722.4	735.4
47.5°	606.1	621.6	656.5	696.6	712.1
50°	566.1	585.4	625.5	669.4	686.2
52.5°	526.0	548.0	593.2	642.3	660.4
55°	487.2	507.9	562.2	615.2	634.5
57.5°	444.6	470.4	529.9	586.7	606.1
60°	400.6	429.1	497.6	557.0	577.7
62.5°	356.7	389.0	466.5	526.0	548.0
65°	312.8	348.9	430.4	493.7	515.7
67.5°	270.1	310.2	396.8	460.1	482.1
70°	221.0	271.4	360.6	422.6	444.6
72.5°	175.8	233.9	325.7	383.8	403.2
75°	135.7	197.7	286.9	339.9	347.6
77.5°	99.5	161.5	246.8	264.9	266.2
80°	67.2	129.2	188.7	186.1	188.7
82.5°	43.9	96.9	118.9	133.1	134.4
85°	25.8	56.9	69.8	77.5	78.8
87.5°	12.9	19.4	24.6	25.8	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)