

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: P309457

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K**

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: P309457
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: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K 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: 3070.0 lumens
Efficiency: N/A
Efficacy: 81.2 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

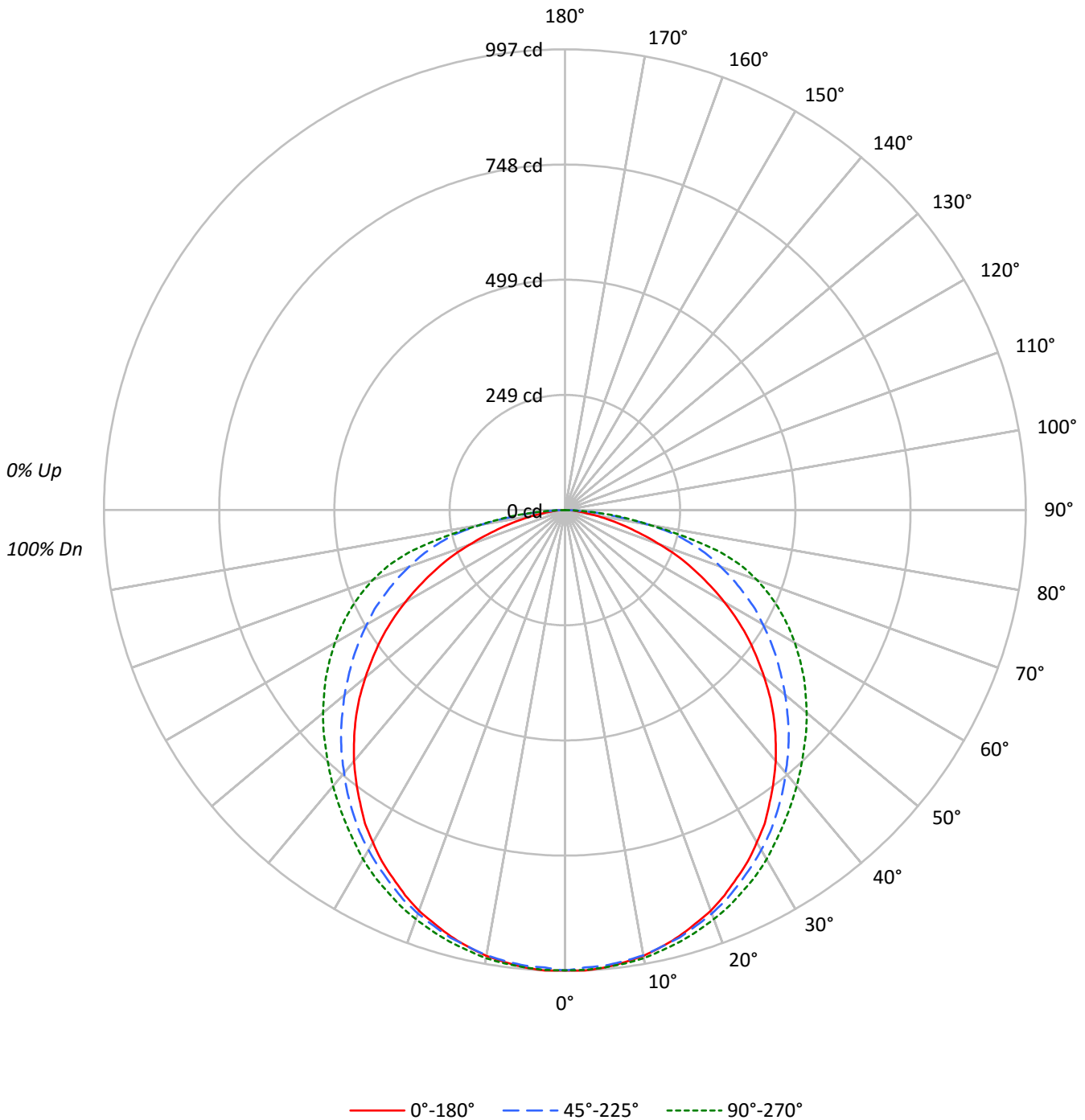
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309457

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P309457

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K

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°	1340	1340	1340
5°	1342	1337	1342
10°	1338	1336	1345
15°	1330	1334	1346
20°	1321	1330	1349
25°	1305	1324	1351
30°	1290	1320	1356
35°	1269	1313	1357
40°	1246	1305	1370
45°	1218	1303	1392
50°	1178	1302	1429
55°	1137	1312	1480
60°	1072	1331	1546
65°	990	1363	1633
70°	865	1411	1739
75°	702	1483	1797
80°	518	1454	1454
85°	397	1071	1210



TEST NUMBER: P309457

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	3.1
10°-20°	271.0	8.8
20°-30°	412.5	13.4
30°-40°	500.9	16.3
40°-50°	529.2	17.2
50°-60°	499.3	16.3
60°-70°	415.2	13.5
70°-80°	273.1	8.9
80°-90°	74.5	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°	777.8	25.3
0°-40°	1278.7	41.7
0°-60°	2307.2	75.2
0°-90°	3070.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3070.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	996	996	996	996	996	
5°	994	994	990	994	994	94
15°	955	956	958	966	966	269
25°	879	884	892	907	910	406
35°	772	781	799	820	826	484
45°	640	653	685	718	731	493
55°	484	505	559	612	631	432
65°	311	347	428	491	513	307
75°	135	197	285	338	346	145
85°	26	57	69	77	78	31
90°	0	0	0	0	0	



TEST NUMBER: P309457

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CA08-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	996.1	996.1	996.1	996.1	996.1
2.5°	997.3	996.1	990.9	996.1	996.1
5°	993.5	993.5	989.6	993.5	993.5
7.5°	987.1	987.1	984.5	989.6	989.6
10°	979.4	979.4	978.1	984.5	984.5
12.5°	967.8	969.1	967.8	975.5	975.5
15°	954.9	956.2	957.5	966.5	966.5
17.5°	938.2	940.8	943.4	953.7	954.9
20°	922.8	924.1	929.2	940.8	942.1
22.5°	902.2	906.1	912.5	924.1	927.9
25°	879.1	884.2	892.0	907.4	910.0
27.5°	857.3	861.1	871.4	888.1	893.2
30°	830.3	836.7	849.5	866.3	872.7
32.5°	804.6	811.0	826.4	844.4	849.5
35°	772.4	781.4	799.4	820.0	826.4
37.5°	741.6	750.6	772.4	795.6	803.3
40°	709.5	719.7	742.9	769.9	780.1
42.5°	674.8	688.9	714.6	744.2	755.7
45°	640.1	652.9	685.0	718.5	731.3
47.5°	602.8	618.2	652.9	692.7	708.2
50°	562.9	582.2	622.1	665.8	682.5
52.5°	523.1	544.9	589.9	638.8	656.8
55°	484.5	505.1	559.1	611.8	631.1
57.5°	442.1	467.8	526.9	583.5	602.8
60°	398.4	426.7	494.8	553.9	574.5
62.5°	354.7	386.9	464.0	523.1	544.9
65°	311.0	347.0	428.0	491.0	512.8
67.5°	268.6	308.5	394.6	457.5	479.4
70°	219.8	269.9	358.6	420.3	442.1
72.5°	174.8	232.6	323.9	381.7	401.0
75°	135.0	196.6	285.3	338.0	345.7
77.5°	99.0	160.7	245.5	263.5	264.8
80°	66.8	128.5	187.6	185.1	187.6
82.5°	43.7	96.4	118.2	132.4	133.7
85°	25.7	56.6	69.4	77.1	78.4
87.5°	12.9	19.3	24.4	25.7	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)