

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: P309482

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-2700K**

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: P309482
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-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 2700K 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: 2699.0 lumens
Efficiency: N/A
Efficacy: 71.8 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

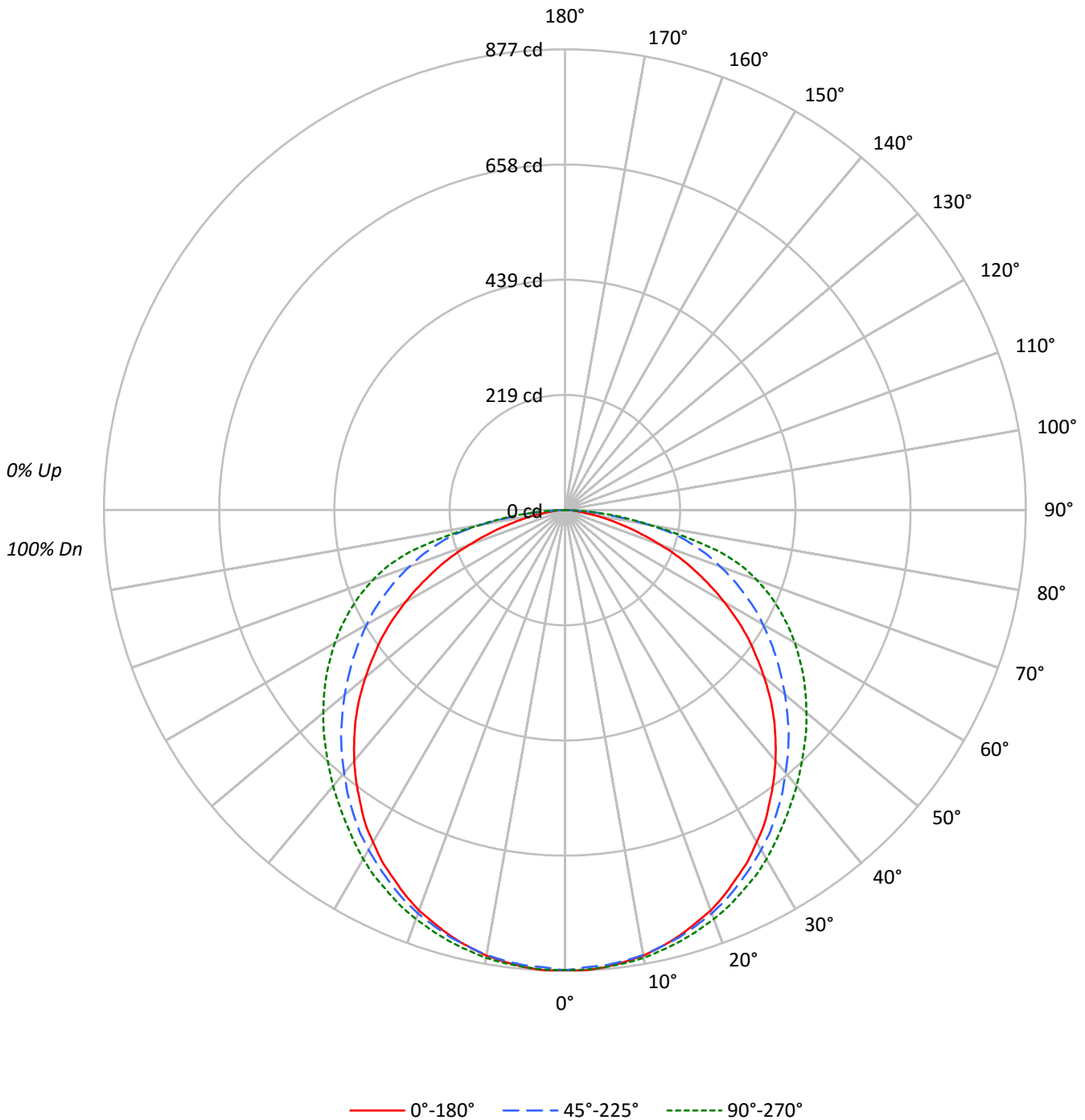
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309482

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P309482

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-2700K

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°	1178	1178	1178
5°	1180	1175	1180
10°	1176	1175	1182
15°	1169	1173	1184
20°	1162	1170	1186
25°	1147	1164	1188
30°	1134	1160	1192
35°	1115	1154	1193
40°	1095	1147	1205
45°	1071	1146	1223
50°	1036	1145	1256
55°	999	1153	1301
60°	943	1171	1359
65°	870	1198	1435
70°	760	1240	1529
75°	617	1304	1580
80°	456	1278	1278
85°	349	942	1064



TEST NUMBER: P309482

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.0	3.1
10°-20°	238.2	8.8
20°-30°	362.7	13.4
30°-40°	440.4	16.3
40°-50°	465.2	17.2
50°-60°	439.0	16.3
60°-70°	365.0	13.5
70°-80°	240.1	8.9
80°-90°	65.5	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°	683.8	25.3
0°-40°	1124.2	41.7
0°-60°	2028.4	75.2
0°-90°	2699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2699.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	876	876	876	876	876	
5°	873	873	870	873	873	83
15°	840	841	842	850	850	237
25°	773	777	784	798	800	357
35°	679	687	703	721	726	425
45°	563	574	602	632	643	433
55°	426	444	492	538	555	379
65°	273	305	376	432	451	270
75°	119	173	251	297	304	128
85°	23	50	61	68	69	28
90°	0	0	0	0	0	



TEST NUMBER: P309482

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	875.7	875.7	875.7	875.7	875.7
2.5°	876.8	875.7	871.2	875.7	875.7
5°	873.4	873.4	870.0	873.4	873.4
7.5°	867.8	867.8	865.5	870.0	870.0
10°	861.0	861.0	859.9	865.5	865.5
12.5°	850.8	852.0	850.8	857.6	857.6
15°	839.5	840.7	841.8	849.7	849.7
17.5°	824.8	827.1	829.4	838.4	839.5
20°	811.3	812.4	816.9	827.1	828.2
22.5°	793.2	796.6	802.2	812.4	815.8
25°	772.9	777.4	784.2	797.7	800.0
27.5°	753.7	757.1	766.1	780.8	785.3
30°	729.9	735.6	746.9	761.6	767.2
32.5°	707.3	713.0	726.5	742.4	746.9
35°	679.1	687.0	702.8	720.9	726.5
37.5°	652.0	659.9	679.1	699.4	706.2
40°	623.7	632.8	653.1	676.8	685.9
42.5°	593.2	605.6	628.2	654.2	664.4
45°	562.7	574.0	602.3	631.6	642.9
47.5°	529.9	543.5	574.0	609.0	622.6
50°	494.9	511.9	546.9	585.3	600.0
52.5°	459.9	479.1	518.6	561.6	577.4
55°	426.0	444.1	491.5	537.8	554.8
57.5°	388.7	411.3	463.3	513.0	529.9
60°	350.3	375.1	435.0	487.0	505.1
62.5°	311.9	340.1	407.9	459.9	479.1
65°	273.4	305.1	376.3	431.6	450.8
67.5°	236.2	271.2	346.9	402.3	421.5
70°	193.2	237.3	315.2	369.5	388.7
72.5°	153.7	204.5	284.7	335.6	352.5
75°	118.6	172.9	250.8	297.2	304.0
77.5°	87.0	141.2	215.8	231.6	232.8
80°	58.8	113.0	165.0	162.7	165.0
82.5°	38.4	84.7	104.0	116.4	117.5
85°	22.6	49.7	61.0	67.8	68.9
87.5°	11.3	16.9	21.5	22.6	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)