

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: P309349

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP187-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: P309349
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: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2582.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

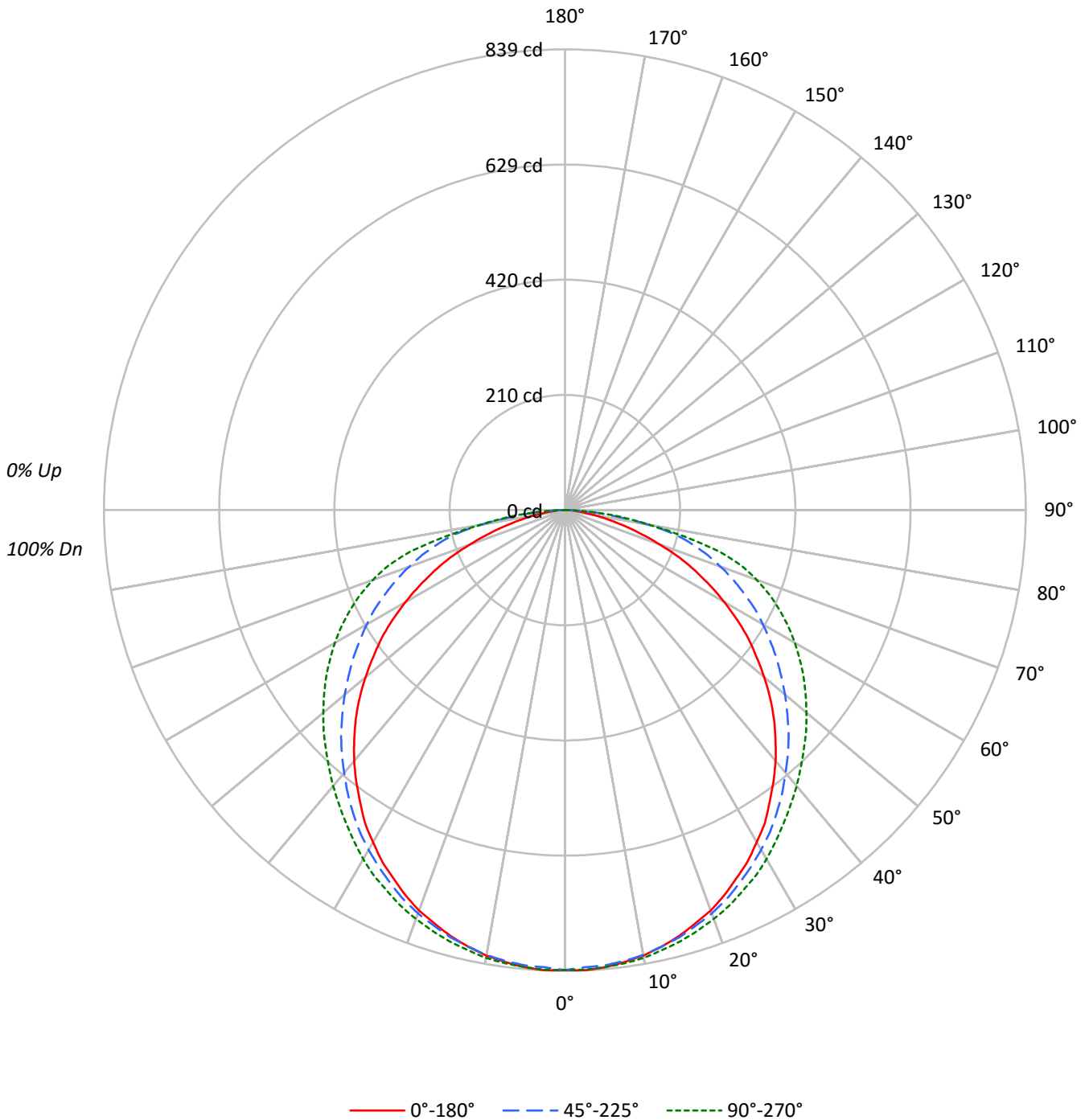
Input Watts (W): 30.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309349

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P309349

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-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°	1127	1127	1127
5°	1129	1124	1129
10°	1125	1124	1131
15°	1119	1122	1132
20°	1111	1119	1134
25°	1098	1114	1136
30°	1085	1110	1140
35°	1067	1104	1142
40°	1048	1097	1152
45°	1024	1096	1170
50°	991	1095	1202
55°	956	1103	1245
60°	902	1120	1300
65°	833	1146	1373
70°	727	1186	1463
75°	590	1248	1512
80°	435	1223	1223
85°	333	902	1017



TEST NUMBER: P309349

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.4	3.1
10°-20°	227.9	8.8
20°-30°	346.9	13.4
30°-40°	421.3	16.3
40°-50°	445.1	17.2
50°-60°	420.0	16.3
60°-70°	349.2	13.5
70°-80°	229.7	8.9
80°-90°	62.6	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°	654.2	25.3
0°-40°	1075.4	41.7
0°-60°	1940.5	75.2
0°-90°	2582.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2582.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	836	836	832	836	836	79
15°	803	804	805	813	813	227
25°	739	744	750	763	765	341
35°	650	657	672	690	695	407
45°	538	549	576	604	615	415
55°	408	425	470	514	531	363
65°	262	292	360	413	431	259
75°	114	165	240	284	291	122
85°	22	48	58	65	66	26
90°	0	0	0	0	0	



TEST NUMBER: P309349

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	837.7	837.7	837.7	837.7	837.7
2.5°	838.8	837.7	833.4	837.7	837.7
5°	835.6	835.6	832.3	835.6	835.6
7.5°	830.2	830.2	828.0	832.3	832.3
10°	823.7	823.7	822.6	828.0	828.0
12.5°	814.0	815.0	814.0	820.4	820.4
15°	803.1	804.2	805.3	812.9	812.9
17.5°	789.1	791.3	793.4	802.1	803.1
20°	776.1	777.2	781.5	791.3	792.3
22.5°	758.8	762.1	767.5	777.2	780.4
25°	739.4	743.7	750.2	763.1	765.3
27.5°	721.0	724.2	732.9	746.9	751.3
30°	698.3	703.7	714.5	728.6	734.0
32.5°	676.7	682.1	695.0	710.2	714.5
35°	649.6	657.2	672.3	689.6	695.0
37.5°	623.7	631.3	649.6	669.1	675.6
40°	596.7	605.3	624.8	647.5	656.1
42.5°	567.5	579.4	601.0	625.9	635.6
45°	538.3	549.1	576.1	604.2	615.1
47.5°	507.0	519.9	549.1	582.6	595.6
50°	473.5	489.7	523.2	559.9	574.0
52.5°	439.9	458.3	496.2	537.2	552.4
55°	407.5	424.8	470.2	514.5	530.7
57.5°	371.8	393.5	443.2	490.7	507.0
60°	335.1	358.9	416.2	465.9	483.2
62.5°	298.3	325.4	390.2	439.9	458.3
65°	261.6	291.9	360.0	412.9	431.3
67.5°	225.9	259.4	331.8	384.8	403.2
70°	184.8	227.0	301.6	353.5	371.8
72.5°	147.0	195.7	272.4	321.0	337.3
75°	113.5	165.4	240.0	284.3	290.8
77.5°	83.2	135.1	206.5	221.6	222.7
80°	56.2	108.1	157.8	155.7	157.8
82.5°	36.8	81.1	99.4	111.3	112.4
85°	21.6	47.6	58.4	64.9	65.9
87.5°	10.8	16.2	20.5	21.6	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)