

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: P309352

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP187-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: P309352
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-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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: 2722.0 lumens
Efficiency: N/A
Efficacy: 87.5 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

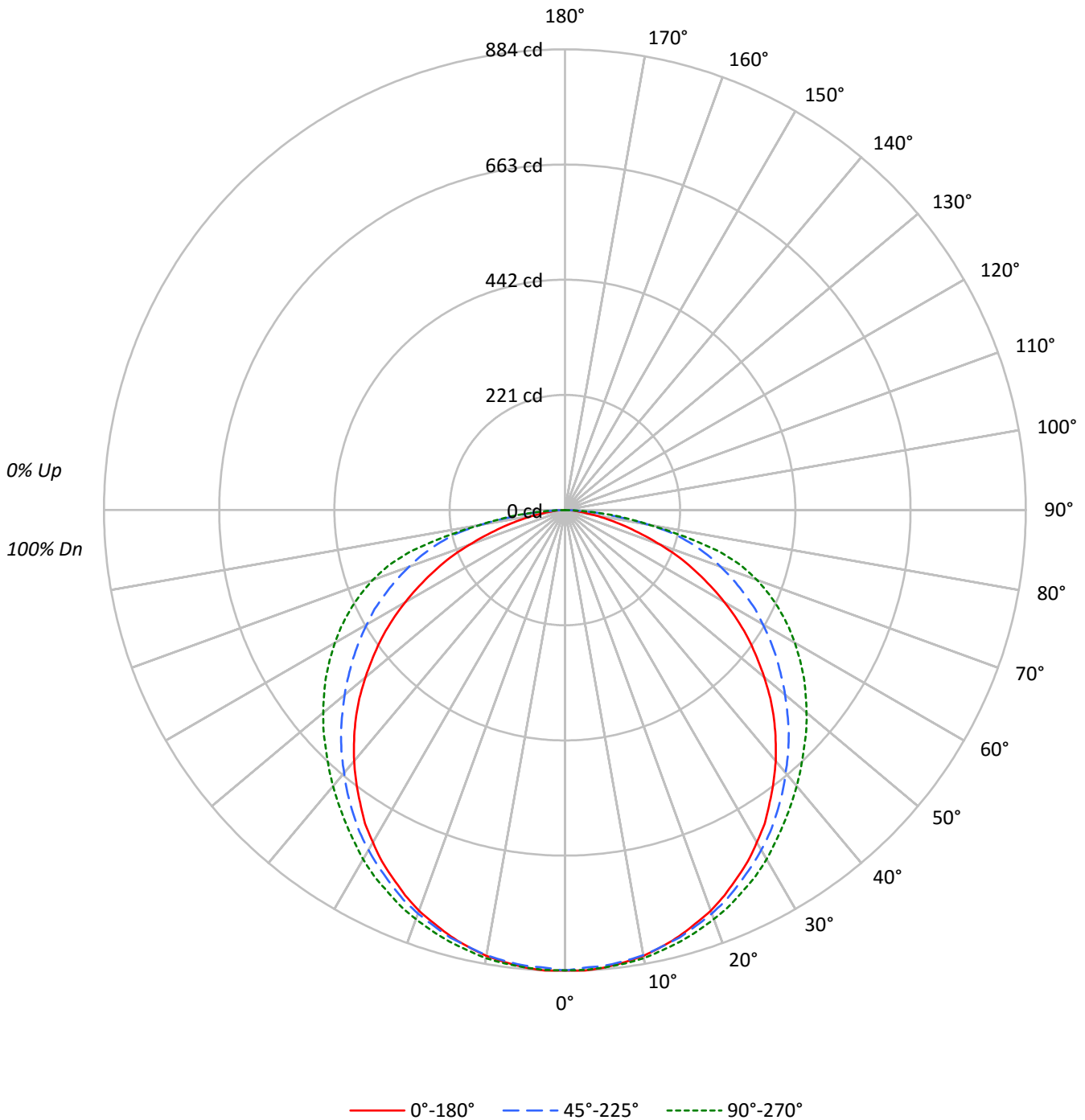
Input Watts (W): 31.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309352

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P309352

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-5000K

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°	1188	1188	1188
5°	1190	1185	1190
10°	1186	1185	1193
15°	1179	1183	1194
20°	1172	1180	1196
25°	1157	1174	1198
30°	1144	1170	1202
35°	1125	1164	1203
40°	1105	1157	1215
45°	1080	1156	1234
50°	1045	1154	1267
55°	1008	1163	1312
60°	951	1181	1371
65°	878	1208	1448
70°	767	1251	1542
75°	622	1315	1593
80°	459	1289	1289
85°	352	949	1073



TEST NUMBER: P309352

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.7	3.1
10°-20°	240.2	8.8
20°-30°	365.7	13.4
30°-40°	444.1	16.3
40°-50°	469.2	17.2
50°-60°	442.7	16.3
60°-70°	368.1	13.5
70°-80°	242.2	8.9
80°-90°	66.0	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°	689.7	25.3
0°-40°	1133.8	41.7
0°-60°	2045.7	75.2
0°-90°	2722.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2722.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	883	883	883	883	883	
5°	881	881	878	881	881	84
15°	847	848	849	857	857	239
25°	780	784	791	804	807	360
35°	685	693	709	727	733	429
45°	568	579	607	637	648	437
55°	430	448	496	542	560	383
65°	276	308	380	435	455	273
75°	120	174	253	300	306	129
85°	23	50	62	68	70	28
90°	0	0	0	0	0	



TEST NUMBER: P309352

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	883.2	883.2	883.2	883.2	883.2
2.5°	884.3	883.2	878.6	883.2	883.2
5°	880.9	880.9	877.5	880.9	880.9
7.5°	875.2	875.2	872.9	877.5	877.5
10°	868.3	868.3	867.2	872.9	872.9
12.5°	858.1	859.2	858.1	864.9	864.9
15°	846.7	847.8	849.0	856.9	856.9
17.5°	831.9	834.2	836.4	845.5	846.7
20°	818.2	819.3	823.9	834.2	835.3
22.5°	800.0	803.4	809.1	819.3	822.8
25°	779.5	784.0	790.9	804.5	806.8
27.5°	760.1	763.5	772.6	787.4	792.0
30°	736.2	741.9	753.2	768.1	773.8
32.5°	713.4	719.1	732.7	748.7	753.2
35°	684.9	692.8	708.8	727.0	732.7
37.5°	657.5	665.5	684.9	705.4	712.2
40°	629.0	638.2	658.7	682.6	691.7
42.5°	598.3	610.8	633.6	659.8	670.1
45°	567.5	578.9	607.4	637.0	648.4
47.5°	534.5	548.1	578.9	614.2	627.9
50°	499.1	516.2	551.5	590.3	605.1
52.5°	463.8	483.2	523.1	566.4	582.3
55°	429.6	447.8	495.7	542.4	559.5
57.5°	392.0	414.8	467.2	517.4	534.5
60°	353.3	378.3	438.7	491.1	509.4
62.5°	314.5	343.0	411.4	463.8	483.2
65°	275.8	307.7	379.5	435.3	454.7
67.5°	238.2	273.5	349.8	405.7	425.1
70°	194.9	239.3	317.9	372.6	392.0
72.5°	155.0	206.3	287.2	338.4	355.5
75°	119.7	174.4	253.0	299.7	306.5
77.5°	87.7	142.4	217.7	233.6	234.7
80°	59.3	114.0	166.4	164.1	166.4
82.5°	38.7	85.5	104.8	117.4	118.5
85°	22.8	50.1	61.5	68.4	69.5
87.5°	11.4	17.1	21.7	22.8	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)