

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: P309351

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP187-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: P309351
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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: 2685.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

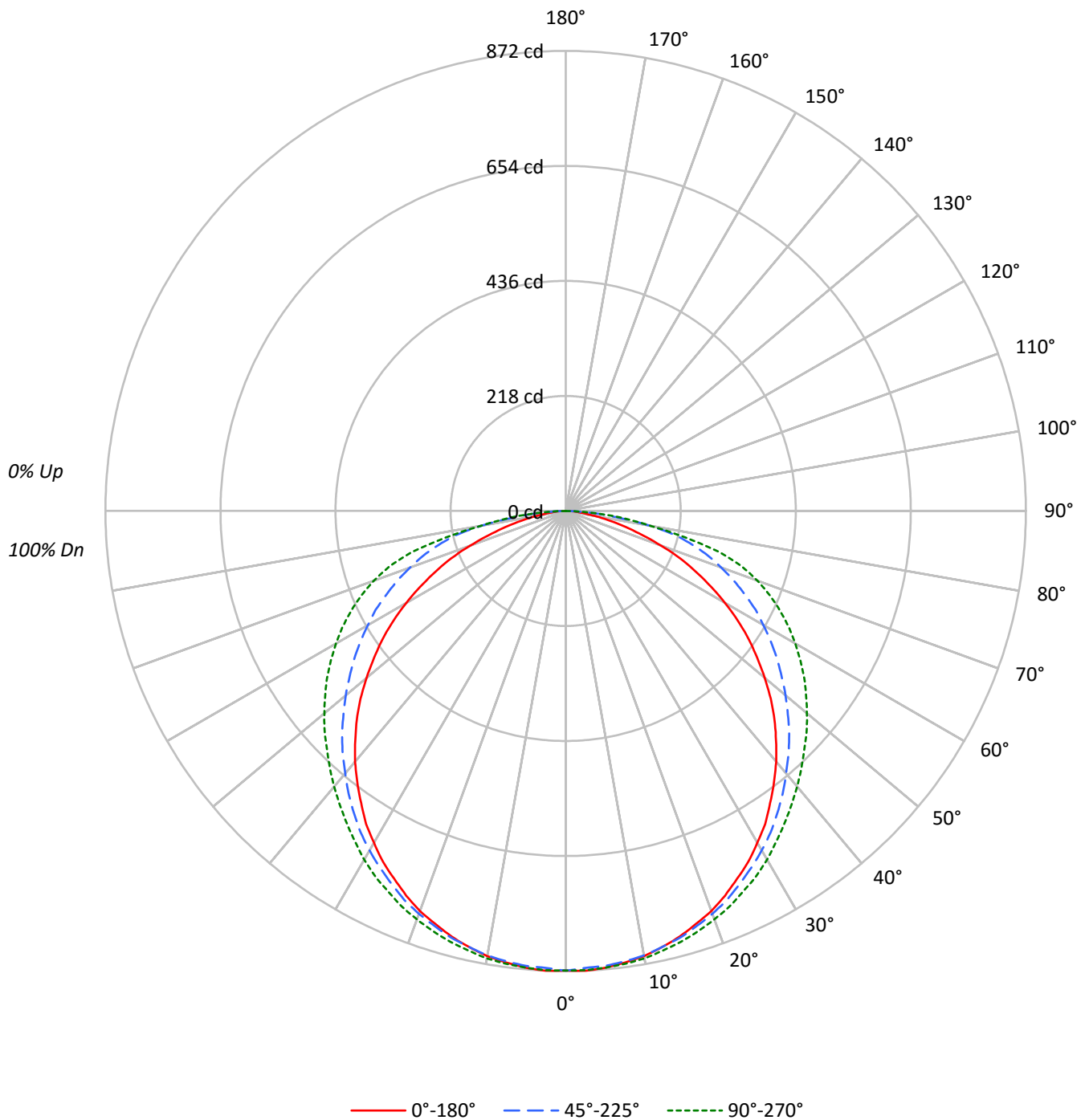
Input Watts (W): 31
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309351

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P309351

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-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°	1172	1172	1172
5°	1174	1169	1174
10°	1170	1169	1176
15°	1163	1166	1177
20°	1156	1164	1180
25°	1141	1158	1181
30°	1128	1154	1186
35°	1110	1148	1187
40°	1090	1141	1198
45°	1065	1140	1217
50°	1030	1139	1249
55°	994	1147	1295
60°	938	1165	1352
65°	866	1192	1428
70°	756	1234	1521
75°	613	1297	1572
80°	453	1272	1272
85°	347	937	1059



TEST NUMBER: P309351

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.5	3.1
10°-20°	237.0	8.8
20°-30°	360.8	13.4
30°-40°	438.1	16.3
40°-50°	462.8	17.2
50°-60°	436.7	16.3
60°-70°	363.1	13.5
70°-80°	238.9	8.9
80°-90°	65.1	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°	680.3	25.3
0°-40°	1118.4	41.7
0°-60°	2017.9	75.2
0°-90°	2685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2685.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	871	871	871	871	871	
5°	869	869	866	869	869	83
15°	835	836	837	845	845	236
25°	769	773	780	794	796	355
35°	676	683	699	717	723	423
45°	560	571	599	628	640	431
55°	424	442	489	535	552	377
65°	272	304	374	429	448	269
75°	118	172	250	296	302	127
85°	22	50	61	67	69	28
90°	0	0	0	0	0	



TEST NUMBER: P309351

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	871.2	871.2	871.2	871.2	871.2
2.5°	872.3	871.2	866.7	871.2	871.2
5°	868.9	868.9	865.5	868.9	868.9
7.5°	863.3	863.3	861.0	865.5	865.5
10°	856.5	856.5	855.4	861.0	861.0
12.5°	846.4	847.5	846.4	853.2	853.2
15°	835.2	836.3	837.4	845.3	845.3
17.5°	820.6	822.8	825.1	834.1	835.2
20°	807.1	808.2	812.7	822.8	823.9
22.5°	789.1	792.5	798.1	808.2	811.6
25°	768.9	773.4	780.1	793.6	795.8
27.5°	749.8	753.1	762.1	776.7	781.2
30°	726.1	731.8	743.0	757.6	763.2
32.5°	703.7	709.3	722.8	738.5	743.0
35°	675.6	683.4	699.2	717.2	722.8
37.5°	648.6	656.5	675.6	695.8	702.5
40°	620.5	629.5	649.7	673.3	682.3
42.5°	590.1	602.5	625.0	650.8	661.0
45°	559.8	571.0	599.1	628.4	639.6
47.5°	527.2	540.7	571.0	605.9	619.4
50°	492.3	509.2	544.0	582.3	596.9
52.5°	457.5	476.6	515.9	558.7	574.4
55°	423.8	441.8	489.0	535.1	551.9
57.5°	386.7	409.2	460.9	510.3	527.2
60°	348.5	373.2	432.8	484.5	502.5
62.5°	310.2	338.3	405.8	457.5	476.6
65°	272.0	303.5	374.3	429.4	448.5
67.5°	234.9	269.8	345.1	400.2	419.3
70°	192.2	236.1	313.6	367.6	386.7
72.5°	152.9	203.5	283.3	333.8	350.7
75°	118.0	172.0	249.5	295.6	302.4
77.5°	86.6	140.5	214.7	230.4	231.6
80°	58.5	112.4	164.1	161.9	164.1
82.5°	38.2	84.3	103.4	115.8	116.9
85°	22.5	49.5	60.7	67.4	68.6
87.5°	11.2	16.9	21.4	22.5	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)