

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: P309350

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP187-W2A-U-4000K**

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: P309350
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 4000K 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: 2639.0 lumens
Efficiency: N/A
Efficacy: 85.7 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

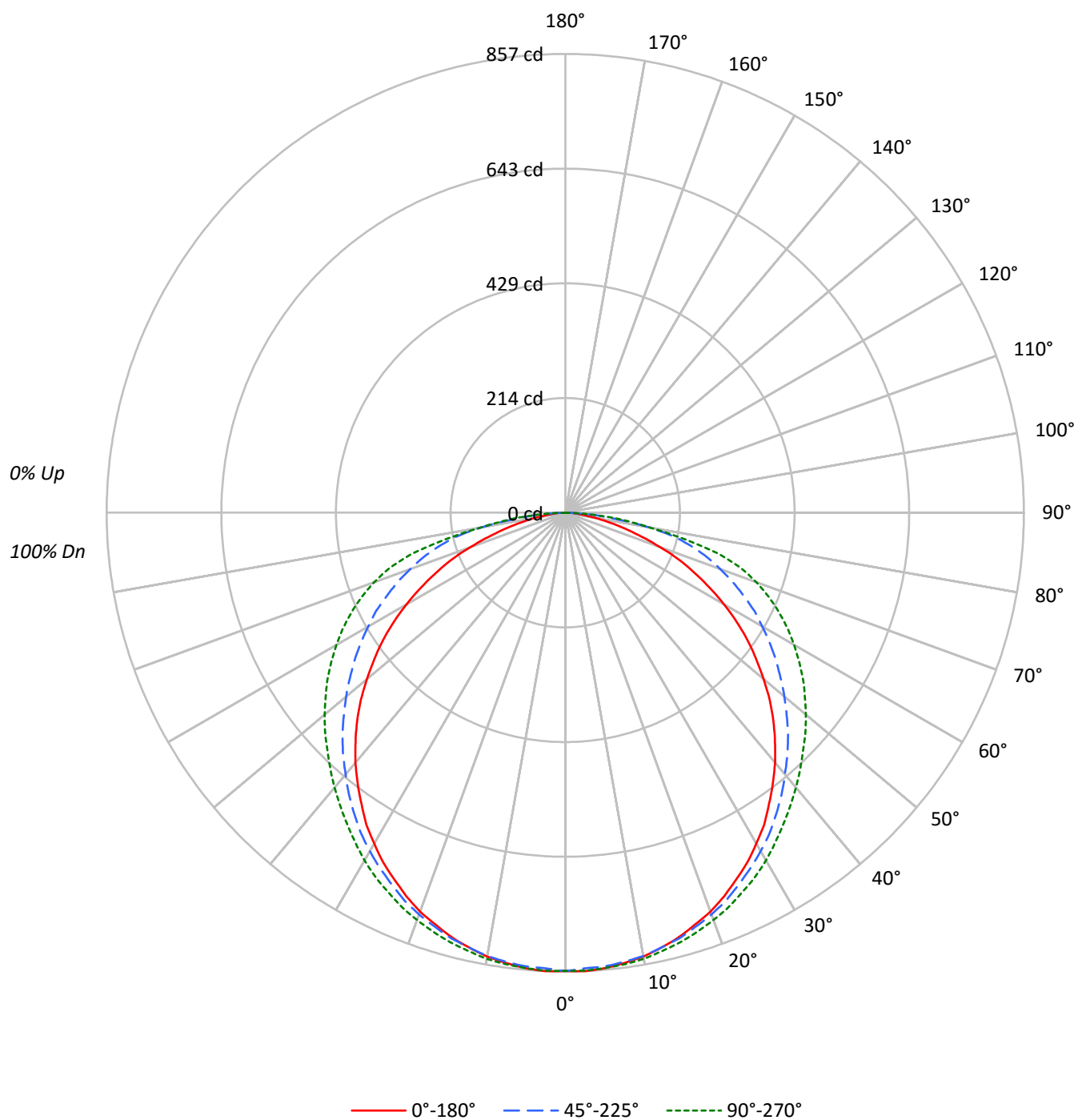
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	1152	1152	1152
5°	1153	1149	1153
10°	1150	1149	1156
15°	1143	1147	1157
20°	1136	1144	1160
25°	1122	1138	1161
30°	1109	1135	1166
35°	1091	1129	1167
40°	1071	1122	1178
45°	1047	1121	1196
50°	1013	1119	1228
55°	977	1127	1273
60°	922	1145	1329
65°	851	1171	1403
70°	743	1212	1495
75°	603	1275	1545
80°	445	1250	1250
85°	341	922	1041



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	3.1
10°-20°	232.9	8.8
20°-30°	354.6	13.4
30°-40°	430.6	16.3
40°-50°	454.9	17.2
50°-60°	429.2	16.3
60°-70°	356.9	13.5
70°-80°	234.8	8.9
80°-90°	64.0	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°	668.6	25.3
0°-40°	1099.2	41.7
0°-60°	1983.3	75.2
0°-90°	2639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	856	856	856	856	856	
5°	854	854	851	854	854	81
15°	821	822	823	831	831	232
25°	756	760	767	780	782	349
35°	664	672	687	705	710	416
45°	550	561	589	618	629	424
55°	416	434	481	526	542	371
65°	267	298	368	422	441	264
75°	116	169	245	291	297	125
85°	22	49	60	66	67	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	856.2	856.2	856.2	856.2	856.2
2.5°	857.3	856.2	851.8	856.2	856.2
5°	854.0	854.0	850.7	854.0	854.0
7.5°	848.5	848.5	846.3	850.7	850.7
10°	841.9	841.9	840.8	846.3	846.3
12.5°	831.9	833.0	831.9	838.5	838.5
15°	820.9	822.0	823.1	830.8	830.8
17.5°	806.5	808.7	810.9	819.8	820.9
20°	793.3	794.4	798.8	808.7	809.8
22.5°	775.6	778.9	784.4	794.4	797.7
25°	755.7	760.1	766.7	780.0	782.2
27.5°	736.9	740.2	749.1	763.4	767.8
30°	713.7	719.2	730.3	744.6	750.2
32.5°	691.6	697.1	710.4	725.9	730.3
35°	664.0	671.7	687.2	704.9	710.4
37.5°	637.5	645.2	664.0	683.9	690.5
40°	609.9	618.7	638.6	661.8	670.6
42.5°	580.0	592.2	614.3	639.7	649.6
45°	550.2	561.2	588.9	617.6	628.6
47.5°	518.2	531.4	561.2	595.5	608.7
50°	483.9	500.5	534.7	572.3	586.7
52.5°	449.7	468.4	507.1	549.1	564.6
55°	416.5	434.2	480.6	525.9	542.5
57.5°	380.1	402.1	453.0	501.6	518.2
60°	342.5	366.8	425.4	476.2	493.8
62.5°	304.9	332.5	398.8	449.7	468.4
65°	267.4	298.3	367.9	422.0	440.8
67.5°	230.9	265.2	339.2	393.3	412.1
70°	188.9	232.0	308.2	361.3	380.1
72.5°	150.3	200.0	278.4	328.1	344.7
75°	116.0	169.0	245.3	290.6	297.2
77.5°	85.1	138.1	211.0	226.5	227.6
80°	57.4	110.5	161.3	159.1	161.3
82.5°	37.6	82.9	101.6	113.8	114.9
85°	22.1	48.6	59.7	66.3	67.4
87.5°	11.0	16.6	21.0	22.1	24.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)