

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: P309669

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-5700K**

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: P309669
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: 24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5700K 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: 4081.0 lumens
Efficiency: N/A
Efficacy: 83.5 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

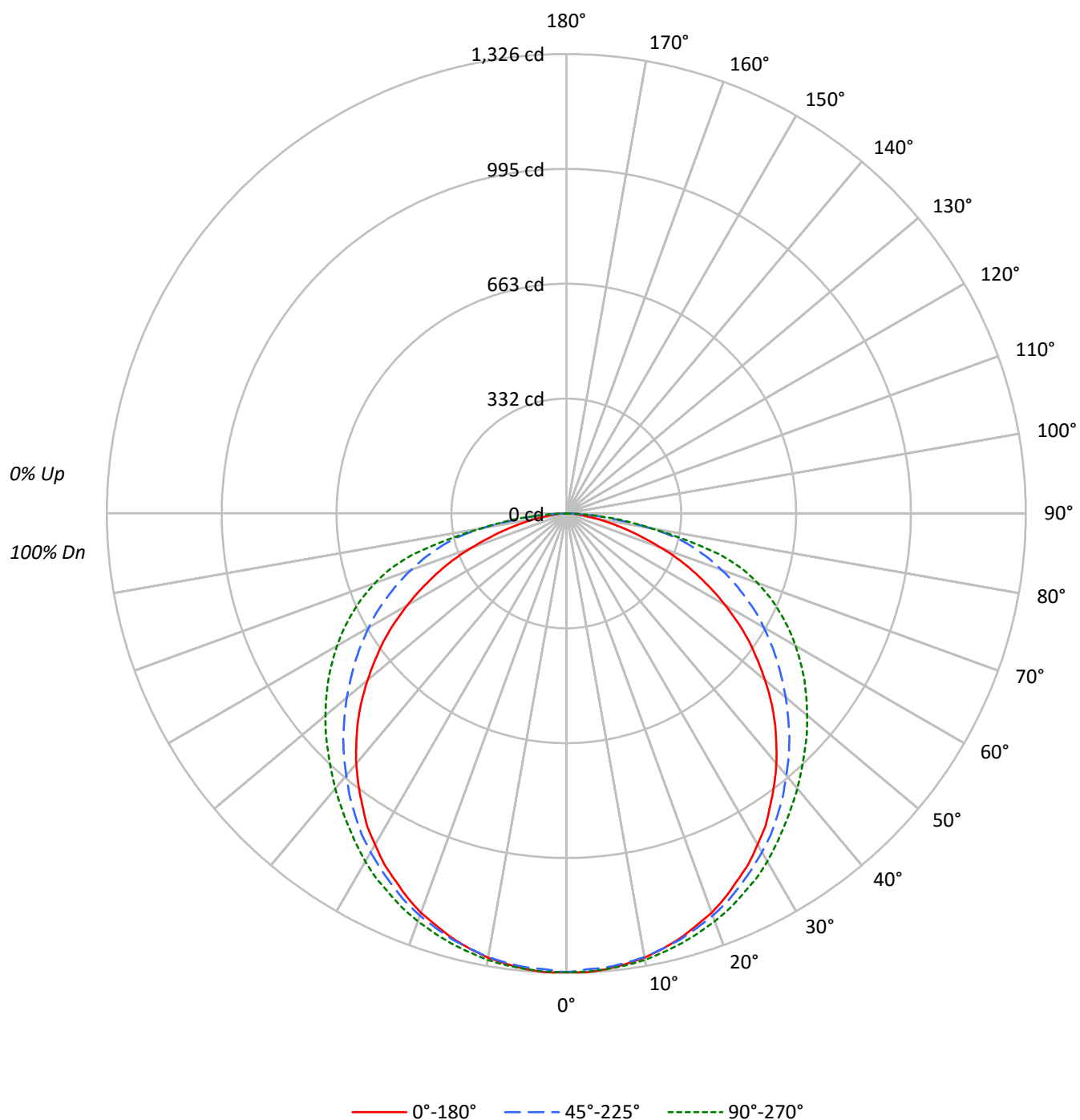
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1782	1782	1782
5°	1784	1777	1784
10°	1779	1776	1788
15°	1768	1773	1790
20°	1756	1769	1793
25°	1735	1760	1796
30°	1715	1755	1802
35°	1687	1746	1804
40°	1656	1734	1822
45°	1619	1733	1850
50°	1566	1731	1899
55°	1511	1743	1968
60°	1425	1770	2055
65°	1316	1811	2170
70°	1149	1875	2312
75°	933	1972	2389
80°	688	1932	1932
85°	528	1425	1609



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	3.1
10°-20°	360.2	8.8
20°-30°	548.4	13.4
30°-40°	665.8	16.3
40°-50°	703.4	17.2
50°-60°	663.8	16.3
60°-70°	551.9	13.5
70°-80°	363.1	8.9
80°-90°	99.0	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°	1034.0	25.3
0°-40°	1699.8	41.7
0°-60°	3067.0	75.2
0°-90°	4081.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4081.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1321	1321	1316	1321	1321	125
15°	1269	1271	1273	1285	1285	358
25°	1169	1175	1186	1206	1210	539
35°	1027	1039	1063	1090	1099	643
45°	851	868	911	955	972	655
55°	644	671	743	813	839	574
65°	414	461	569	653	682	409
75°	179	261	379	449	460	193
85°	34	75	92	102	104	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1324.1	1324.1	1324.1	1324.1	1324.1
2.5°	1325.8	1324.1	1317.2	1324.1	1324.1
5°	1320.7	1320.7	1315.5	1320.7	1320.7
7.5°	1312.1	1312.1	1308.7	1315.5	1315.5
10°	1301.9	1301.9	1300.2	1308.7	1308.7
12.5°	1286.5	1288.2	1286.5	1296.7	1296.7
15°	1269.4	1271.1	1272.8	1284.8	1284.8
17.5°	1247.2	1250.6	1254.0	1267.7	1269.4
20°	1226.7	1228.4	1235.2	1250.6	1252.3
22.5°	1199.4	1204.5	1213.0	1228.4	1233.5
25°	1168.6	1175.4	1185.7	1206.2	1209.6
27.5°	1139.6	1144.7	1158.4	1180.6	1187.4
30°	1103.7	1112.2	1129.3	1151.5	1160.1
32.5°	1069.5	1078.1	1098.6	1122.5	1129.3
35°	1026.8	1038.8	1062.7	1090.0	1098.6
37.5°	985.8	997.8	1026.8	1057.6	1067.8
40°	943.1	956.8	987.5	1023.4	1037.1
42.5°	897.0	915.8	949.9	989.2	1004.6
45°	850.8	867.9	910.6	955.0	972.1
47.5°	801.3	821.8	867.9	920.9	941.4
50°	748.3	773.9	826.9	885.0	907.2
52.5°	695.4	724.4	784.2	849.1	873.0
55°	644.1	671.4	743.2	813.2	838.9
57.5°	587.7	621.9	700.5	775.7	801.3
60°	529.6	567.2	657.8	736.4	763.7
62.5°	471.5	514.3	616.8	695.4	724.4
65°	413.5	461.3	568.9	652.6	681.7
67.5°	357.1	410.0	524.5	608.2	637.3
70°	292.2	358.8	476.7	558.7	587.7
72.5°	232.4	309.2	430.5	507.4	533.1
75°	179.4	261.4	379.3	449.3	459.6
77.5°	131.6	213.6	326.3	350.2	351.9
80°	88.8	170.8	249.4	246.0	249.4
82.5°	58.1	128.1	157.2	176.0	177.7
85°	34.2	75.2	92.3	102.5	104.2
87.5°	17.1	25.6	32.5	34.2	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)