

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: P309637

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA08-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: P309637
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 4086.0 lumens
Efficiency: N/A
Efficacy: 85.5 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

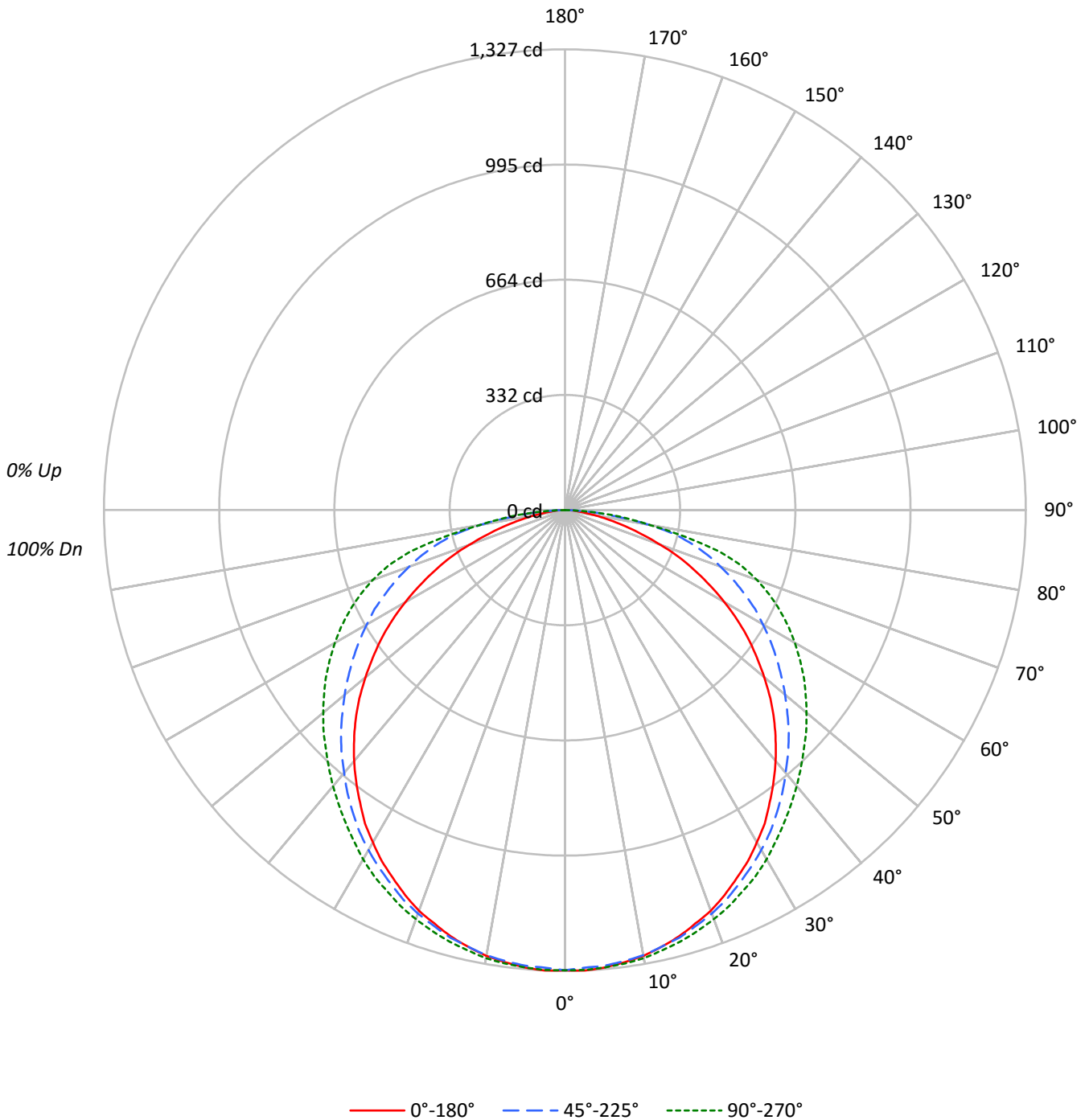
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1784	1784	1784
5°	1786	1779	1786
10°	1781	1779	1790
15°	1770	1775	1792
20°	1759	1771	1795
25°	1737	1762	1798
30°	1717	1757	1805
35°	1689	1748	1807
40°	1658	1737	1824
45°	1621	1735	1852
50°	1568	1733	1901
55°	1513	1746	1970
60°	1427	1772	2058
65°	1318	1813	2173
70°	1151	1878	2315
75°	934	1974	2392
80°	690	1935	1935
85°	528	1426	1610



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	3.1
10°-20°	360.6	8.8
20°-30°	549.0	13.4
30°-40°	666.6	16.3
40°-50°	704.3	17.2
50°-60°	664.6	16.3
60°-70°	552.6	13.5
70°-80°	363.5	8.9
80°-90°	99.1	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°	1035.3	25.3
0°-40°	1701.9	41.7
0°-60°	3070.8	75.2
0°-90°	4086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4086.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1326	1326	1326	1326	1326	
5°	1322	1322	1317	1322	1322	126
15°	1271	1273	1274	1286	1286	358
25°	1170	1177	1187	1208	1211	540
35°	1028	1040	1064	1091	1100	644
45°	852	869	912	956	973	656
55°	645	672	744	814	840	574
65°	414	462	570	653	682	409
75°	180	262	380	450	460	194
85°	34	75	92	103	104	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1325.7	1325.7	1325.7	1325.7	1325.7
2.5°	1327.4	1325.7	1318.9	1325.7	1325.7
5°	1322.3	1322.3	1317.2	1322.3	1322.3
7.5°	1313.7	1313.7	1310.3	1317.2	1317.2
10°	1303.5	1303.5	1301.8	1310.3	1310.3
12.5°	1288.1	1289.8	1288.1	1298.3	1298.3
15°	1271.0	1272.7	1274.4	1286.4	1286.4
17.5°	1248.7	1252.2	1255.6	1269.3	1271.0
20°	1228.2	1229.9	1236.8	1252.2	1253.9
22.5°	1200.8	1206.0	1214.5	1229.9	1235.0
25°	1170.0	1176.9	1187.1	1207.7	1211.1
27.5°	1141.0	1146.1	1159.8	1182.0	1188.9
30°	1105.0	1113.6	1130.7	1152.9	1161.5
32.5°	1070.8	1079.4	1099.9	1123.9	1130.7
35°	1028.1	1040.0	1064.0	1091.4	1099.9
37.5°	987.0	999.0	1028.1	1058.9	1069.1
40°	944.2	957.9	988.7	1024.6	1038.3
42.5°	898.1	916.9	951.1	990.4	1005.8
45°	851.9	869.0	911.7	956.2	973.3
47.5°	802.3	822.8	869.0	922.0	942.5
50°	749.2	774.9	827.9	886.1	908.3
52.5°	696.2	725.3	785.2	850.2	874.1
55°	644.9	672.3	744.1	814.2	839.9
57.5°	588.4	622.7	701.3	776.6	802.3
60°	530.3	567.9	658.6	737.3	764.6
62.5°	472.1	514.9	617.5	696.2	725.3
65°	414.0	461.9	569.6	653.4	682.5
67.5°	357.5	410.5	525.2	609.0	638.0
70°	292.5	359.2	477.3	559.4	588.4
72.5°	232.6	309.6	431.1	508.0	533.7
75°	179.6	261.7	379.8	449.9	460.1
77.5°	131.7	213.8	326.7	350.7	352.4
80°	89.0	171.1	249.7	246.3	249.7
82.5°	58.2	128.3	157.4	176.2	177.9
85°	34.2	75.3	92.4	102.6	104.3
87.5°	17.1	25.7	32.5	34.2	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)