

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: NEO-RAY

Report Number: P231546

Luminaire Tested: **S122-DR-LO-40-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231546
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1612-022-4)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122-DR-LO-40-X-0048-1-U-DD-3-W
Description: DEFINE 2 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1415.3 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.03 / 1.18
Luminous Opening: Rectangular (W 3.92' x L: 0.14' x H: 0')
CIE Type: Direct

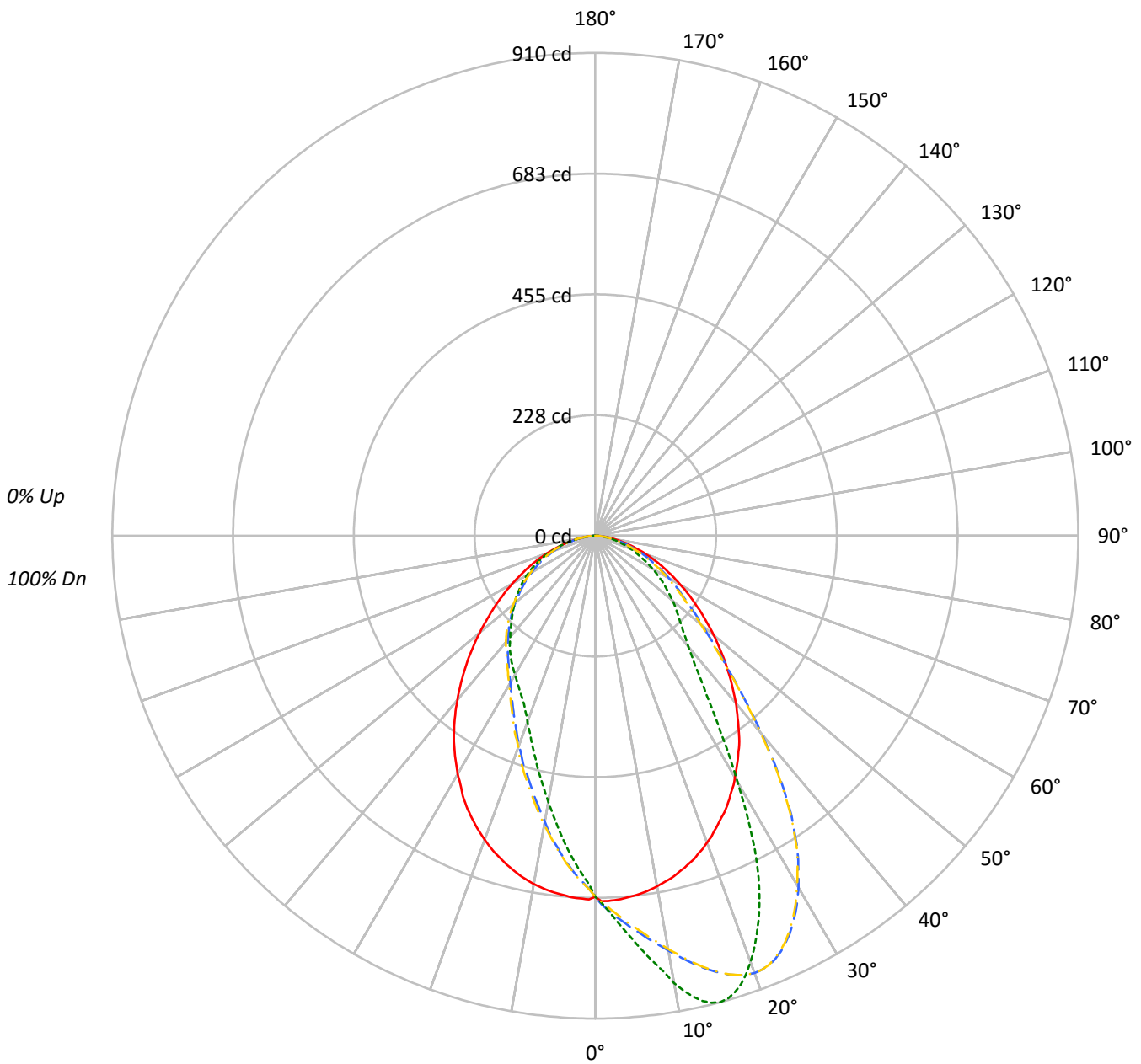
Input Watts (W): 13.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	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					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	86	82	88	84	80	85	81	78	82	79	76	74					74			
3	93	84	76	70	91	82	75	70	79	73	68	76	72	67	74	70	66	64					64			
4	86	75	67	61	84	74	66	60	71	65	60	69	63	59	67	62	58	56					56			
5	80	68	59	53	78	67	59	53	65	58	53	63	57	52	61	56	51	49					49			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44					44			
7	69	56	48	42	67	56	48	42	54	47	42	53	46	42	51	46	41	40					40			
8	64	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	60	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13354	13354	13354	13354
5°	13488	14956	13399	11699
10°	13371	17069	13287	10152
15°	13167	18489	13051	8844
20°	12856	17857	12728	7800
25°	12463	15827	12322	7161
30°	11916	12159	11753	6864
35°	11335	8718	11134	6669
40°	10555	6975	10360	6399
45°	9730	6243	9550	6180
50°	8884	5805	8685	6062
55°	8063	5370	7854	5945
60°	7298	4872	7075	5846
65°	6577	4399	6331	5602
70°	5848	3989	5544	5171
75°	5006	3565	4664	4664
80°	4149	3064	3674	3753
85°	3176	2658	2748	2590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.5	4.6
10°-20°	185.4	13.1
20°-30°	263.0	18.6
30°-40°	270.3	19.1
40°-50°	236.9	16.7
50°-60°	188.4	13.3
60°-70°	127.0	9.0
70°-80°	64.3	4.5
80°-90°	15.4	1.1
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°	512.9	36.2
0°-40°	783.2	55.3
0°-60°	1208.5	85.4
0°-90°	1415.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1415.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	680	680	680	680	680	
5°	684	759	680	594	684	65
15°	648	910	642	435	648	182
25°	575	731	569	331	575	264
35°	473	364	465	278	473	294
45°	350	225	344	223	350	270
55°	236	157	230	174	236	211
65°	142	95	136	121	142	141
75°	66	47	62	62	66	71
85°	14	12	12	12	14	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	680.3	680.3	680.3	680.3	680.3	680.3	680.3	680.3	680.3	680.3	680.3
1°	689.1	689.5	695.2	700.2	692.2	690.7	690.3	681.9	685.3	670.8	665.8
2°	688.7	695.2	706.7	715.1	707.4	704.8	701.0	686.8	684.5	663.9	654.4
3°	688.0	701.0	717.8	729.6	723.9	718.9	712.0	692.2	683.8	657.1	643.3
4°	686.5	705.5	728.1	744.1	741.0	733.4	722.7	697.1	682.3	649.4	631.1
5°	684.5	710.5	738.8	759.8	759.0	748.3	733.8	701.7	680.0	642.5	618.1
6°	682.6	714.7	749.4	775.4	777.7	764.0	744.5	705.9	678.1	634.1	604.7
7°	680.3	718.5	760.5	792.6	796.4	780.4	755.6	710.1	675.8	625.7	591.0
8°	677.7	722.7	771.6	809.4	814.7	797.2	767.0	713.6	673.1	617.0	577.3
9°	674.6	726.2	782.7	826.9	833.4	813.6	778.8	717.0	670.0	607.8	563.9
10°	670.8	729.6	794.1	843.7	856.3	833.4	790.7	720.0	666.6	598.3	547.1
11°	666.6	732.6	805.6	859.8	873.5	849.1	802.5	723.5	662.4	588.3	533.0
12°	662.8	735.7	817.0	875.1	888.4	863.6	814.7	725.8	658.2	578.0	519.6
13°	658.6	738.0	828.1	888.0	899.9	877.0	826.2	727.7	652.9	567.3	506.2
14°	652.9	740.7	838.8	898.3	907.1	888.4	837.3	730.0	647.9	556.6	492.9
15°	647.9	742.6	848.7	904.8	909.8	896.4	847.6	732.6	642.2	545.6	479.9
16°	642.2	744.9	857.5	907.5	907.1	899.5	856.3	734.2	636.1	534.1	466.9
17°	636.8	746.4	865.1	905.6	899.5	897.2	864.4	736.1	630.3	523.0	457.4
18°	629.6	747.9	870.9	899.1	888.4	892.6	870.5	736.8	623.8	511.6	444.8
19°	623.5	749.4	875.1	888.8	873.1	882.3	875.1	738.0	617.0	500.1	432.2
20°	615.4	750.2	877.0	874.7	854.8	867.8	877.0	738.4	609.3	485.6	420.0
21°	608.6	750.6	876.2	857.9	834.2	850.6	876.2	738.8	602.1	474.2	408.5
22°	599.4	751.0	872.8	838.4	811.3	831.1	872.4	739.1	594.1	462.7	396.7
23°	591.4	751.0	867.0	817.4	786.9	809.8	865.5	739.1	585.7	450.5	386.0
24°	582.6	750.6	858.3	795.3	760.1	788.0	856.3	738.8	577.3	441.7	375.3
25°	575.4	749.8	847.6	771.6	730.7	765.1	845.3	738.0	568.9	429.9	365.0
26°	566.2	748.3	835.0	746.0	697.5	739.9	831.9	736.8	559.7	418.4	355.4
27°	556.6	746.8	820.1	717.8	660.5	712.0	817.0	735.3	550.2	407.0	345.9
28°	546.0	744.5	803.7	685.7	620.0	680.0	799.8	732.6	538.3	395.9	337.1
29°	537.6	741.8	785.3	651.3	578.0	643.7	780.8	730.4	528.0	384.8	328.3
30°	525.7	738.8	765.5	613.9	536.4	605.5	760.5	727.3	518.5	374.2	319.9
32.5°	499.4	727.3	710.1	518.1	440.2	508.2	708.6	716.2	491.7	348.2	302.0
35°	473.0	711.6	644.1	422.6	363.8	420.7	641.8	701.3	464.6	323.8	286.0
37.5°	441.7	690.7	567.3	358.5	309.2	351.2	564.3	681.1	435.2	299.7	271.1
40°	411.9	665.1	487.9	305.8	272.2	300.8	484.5	655.9	404.3	277.9	256.2
42.5°	381.0	634.1	413.9	268.4	245.5	265.0	410.4	624.6	373.8	258.1	241.3
45°	350.5	597.5	351.2	239.0	224.9	238.2	348.2	588.3	344.0	239.0	226.8
47.5°	320.3	555.9	302.0	219.1	206.9	216.5	298.2	546.3	314.2	221.1	212.3
50°	290.9	508.9	263.1	200.1	190.1	197.8	258.9	495.9	284.4	203.9	197.0
52.5°	262.3	463.5	231.7	181.7	172.2	180.6	226.8	447.1	255.8	187.1	181.7
55°	235.6	411.6	203.5	164.5	156.9	163.0	200.4	397.1	229.5	171.0	167.2
57.5°	210.4	360.0	182.5	147.4	140.1	145.8	176.8	344.0	204.6	155.4	152.7
60°	185.9	310.4	160.7	130.2	124.1	129.0	155.8	294.0	180.2	139.4	139.0
62.5°	163.0	263.8	140.9	114.2	109.2	113.4	135.9	248.9	157.3	124.1	124.8
65°	141.6	221.4	121.0	100.0	94.7	98.5	117.6	208.8	136.3	109.2	111.1



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CATALOG NUMBER: S122-DR-LO-40-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	121.0	180.2	105.0	84.8	81.7	84.0	100.4	171.0	115.7	93.2	95.8
70°	101.9	147.4	87.0	71.8	69.5	71.0	82.1	138.2	96.6	79.0	82.1
72.5°	82.8	118.4	71.8	59.9	57.6	58.8	68.0	110.0	77.9	65.3	68.7
75°	66.0	91.6	57.6	48.5	47.0	47.3	54.6	83.2	61.5	52.3	55.4
77.5°	50.4	68.3	44.7	37.8	36.7	37.0	41.6	61.1	46.2	40.1	42.4
80°	36.7	48.1	32.8	27.9	27.1	27.1	30.2	42.4	32.5	28.6	30.5
82.5°	24.4	31.7	22.9	19.5	18.7	18.7	20.2	26.7	20.6	18.7	20.2
85°	14.1	18.7	14.1	11.8	11.8	11.5	12.2	14.5	12.2	10.3	11.1
87.5°	6.9	8.4	6.9	5.7	5.7	5.0	5.3	5.3	4.2	3.4	3.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: S122-DR-LO-40-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	680.3	680.3	680.3	680.3	680.3	680.3
1°	665.5	657.4	660.9	666.6	671.9	689.1
2°	650.6	641.4	646.4	655.1	665.8	688.7
3°	635.7	626.1	632.2	644.5	659.0	688.0
4°	619.3	610.1	616.2	632.6	652.1	686.5
5°	602.5	593.7	599.8	620.0	644.8	684.5
6°	586.0	576.5	583.4	607.0	637.2	682.6
7°	569.2	558.9	567.0	593.7	629.6	680.3
8°	553.2	541.8	551.3	579.9	620.8	677.7
9°	537.2	525.3	535.3	566.6	609.7	674.6
10°	521.5	509.3	519.2	553.2	599.8	670.8
11°	506.2	494.0	504.0	539.8	589.9	666.6
12°	491.4	478.8	489.1	526.5	580.3	662.8
13°	476.5	464.3	475.3	513.5	569.6	658.6
14°	462.3	449.7	462.0	500.5	559.3	652.9
15°	448.2	435.2	448.6	487.5	547.9	647.9
16°	434.5	421.9	435.2	474.9	536.8	642.2
17°	421.5	408.5	422.3	462.7	525.3	636.8
18°	408.9	395.9	408.9	450.5	516.2	629.6
19°	395.9	384.5	396.3	438.7	504.3	623.5
20°	384.5	373.4	384.1	423.8	492.1	615.4
21°	373.8	362.7	373.0	412.3	480.3	608.6
22°	363.5	353.2	362.3	403.5	468.5	599.4
23°	353.5	344.4	352.4	391.7	457.0	591.4
24°	344.4	337.1	343.6	380.6	445.5	582.6
25°	336.4	330.6	335.6	370.0	434.1	575.4
26°	329.5	324.5	328.7	360.0	422.3	566.2
27°	323.0	318.8	323.0	350.5	410.8	556.6
28°	317.3	313.1	316.9	341.7	399.7	546.0
29°	311.5	307.7	310.0	332.9	388.7	537.6
30°	305.8	302.8	304.7	324.9	378.0	525.7
32.5°	292.1	290.5	291.7	306.2	352.0	499.4
35°	278.7	278.3	279.5	290.5	327.6	473.0
37.5°	265.3	264.6	266.5	276.0	304.3	441.7
40°	251.2	249.7	252.4	261.9	283.3	411.9
42.5°	235.9	235.6	237.9	247.4	263.4	381.0
45°	221.4	222.6	223.7	232.5	244.3	350.5
47.5°	207.7	210.4	210.0	217.2	227.2	320.3
50°	194.7	198.5	197.0	201.6	210.4	290.9
52.5°	182.1	187.1	184.4	185.9	193.9	262.3
55°	169.9	173.7	172.6	170.7	178.3	235.6
57.5°	156.9	162.3	160.0	156.5	162.6	210.4
60°	143.6	148.9	146.6	142.0	146.6	185.9
62.5°	130.2	135.5	133.2	127.9	131.0	163.0
65°	116.8	120.6	119.9	114.5	115.7	141.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	103.1	106.9	105.4	100.4	100.4	121.0
70°	88.2	90.1	90.1	85.9	84.8	101.9
72.5°	72.5	75.6	74.8	72.2	70.6	82.8
75°	59.2	61.5	62.2	58.8	56.9	66.0
77.5°	45.8	47.3	48.9	45.8	44.3	50.4
80°	32.5	33.2	35.5	33.6	32.8	36.7
82.5°	21.0	21.8	23.3	22.9	22.5	24.4
85°	11.1	11.5	13.0	13.4	13.4	14.1
87.5°	3.1	3.8	4.6	5.3	6.1	6.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)