

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: P231544

Luminaire Tested: **S122-DR-LO-30-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231544
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-30-X-0048-1-U-DD-3-W
Description: DEFINE 2 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1092.4 lumens
Efficiency: N/A
Efficacy: 80.3 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

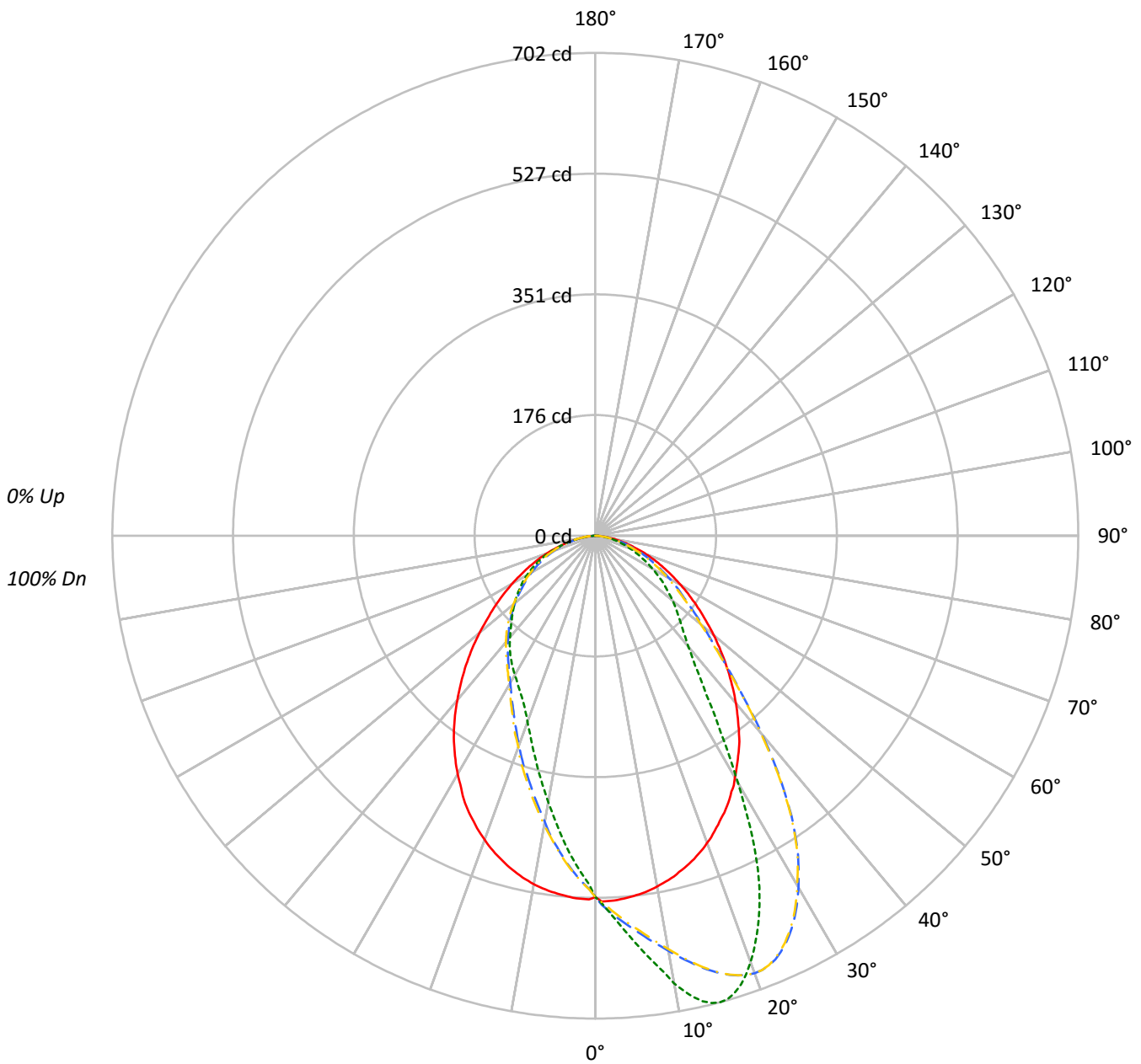
Input Watts (W): 13.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



— 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°	10308	10308	10308	10308
5°	10412	11543	10341	9029
10°	10321	13176	10255	7836
15°	10163	14270	10074	6826
20°	9923	13783	9825	6020
25°	9619	12216	9511	5527
30°	9198	9384	9071	5297
35°	8749	6729	8593	5147
40°	8149	5384	7998	4938
45°	7509	4819	7371	4769
50°	6856	4483	6703	4679
55°	6222	4145	6061	4589
60°	5634	3761	5461	4511
65°	5077	3395	4886	4324
70°	4517	3076	4282	3989
75°	3868	2746	3595	3595
80°	3199	2363	2826	2894
85°	2455	2050	2117	1982



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.8	4.6
10°-20°	143.1	13.1
20°-30°	203.0	18.6
30°-40°	208.6	19.1
40°-50°	182.8	16.7
50°-60°	145.4	13.3
60°-70°	98.0	9.0
70°-80°	49.6	4.5
80°-90°	11.9	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°	395.9	36.2
0°-40°	604.5	55.3
0°-60°	932.8	85.4
0°-90°	1092.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1092.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	525	525	525	525	525	
5°	528	586	525	458	528	50
15°	500	702	496	336	500	141
25°	444	564	439	255	444	204
35°	365	281	359	215	365	227
45°	270	174	266	172	270	209
55°	182	121	177	134	182	163
65°	109	73	105	93	109	109
75°	51	36	47	47	51	55
85°	11	9	9	9	11	13
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°	525.1	525.1	525.1	525.1	525.1	525.1	525.1	525.1	525.1	525.1	525.1
1°	531.9	532.2	536.6	540.4	534.3	533.1	532.8	526.3	529.0	517.8	513.9
2°	531.6	536.6	545.5	551.9	546.0	544.0	541.0	530.1	528.4	512.5	505.1
3°	531.0	541.0	554.0	563.1	558.7	554.9	549.6	534.3	527.8	507.2	496.5
4°	529.8	544.6	562.0	574.3	572.0	566.1	557.8	538.1	526.6	501.3	487.1
5°	528.4	548.4	570.2	586.4	585.8	577.6	566.4	541.6	524.8	496.0	477.1
6°	526.9	551.6	578.5	598.5	600.3	589.7	574.6	544.9	523.4	489.5	466.8
7°	525.1	554.6	587.0	611.8	614.7	602.3	583.2	548.1	521.6	483.0	456.2
8°	523.1	557.8	595.6	624.7	628.9	615.3	592.0	550.8	519.5	476.2	445.6
9°	520.7	560.5	604.1	638.3	643.3	628.0	601.2	553.4	517.2	469.1	435.2
10°	517.8	563.1	612.9	651.3	661.0	643.3	610.3	555.8	514.5	461.8	422.3
11°	514.5	565.5	621.8	663.6	674.2	655.4	619.4	558.4	511.3	454.1	411.4
12°	511.6	567.9	630.6	675.4	685.7	666.6	628.9	560.2	508.0	446.2	401.1
13°	508.3	569.6	639.2	685.4	694.6	676.9	637.7	561.7	503.9	437.9	390.8
14°	503.9	571.7	647.4	693.4	700.2	685.7	646.2	563.4	500.1	429.6	380.4
15°	500.1	573.2	655.1	698.4	702.2	691.9	654.2	565.5	495.7	421.1	370.4
16°	495.7	574.9	661.9	700.5	700.2	694.3	661.0	566.7	490.9	412.3	360.4
17°	491.5	576.1	667.8	699.0	694.3	692.5	667.2	568.1	486.5	403.7	353.0
18°	485.9	577.3	672.2	694.0	685.7	689.0	671.9	568.7	481.5	394.9	343.3
19°	481.2	578.5	675.4	686.0	673.9	681.0	675.4	569.6	476.2	386.0	333.6
20°	475.0	579.1	676.9	675.1	659.8	669.8	676.9	569.9	470.3	374.8	324.2
21°	469.7	579.3	676.3	662.2	643.9	656.6	676.3	570.2	464.7	366.0	315.3
22°	462.7	579.6	673.6	647.1	626.2	641.5	673.4	570.5	458.5	357.2	306.2
23°	456.5	579.6	669.2	630.9	607.3	625.0	668.0	570.5	452.0	347.7	297.9
24°	449.7	579.3	662.4	613.8	586.7	608.2	661.0	570.2	445.6	340.9	289.7
25°	444.1	578.8	654.2	595.6	564.0	590.5	652.4	569.6	439.1	331.8	281.7
26°	437.0	577.6	644.5	575.8	538.4	571.1	642.1	568.7	432.0	323.0	274.4
27°	429.6	576.4	633.0	554.0	509.8	549.6	630.6	567.6	424.6	314.1	267.0
28°	421.4	574.6	620.3	529.3	478.6	524.8	617.4	565.5	415.5	305.6	260.2
29°	414.9	572.6	606.2	502.7	446.2	496.8	602.6	563.7	407.5	297.0	253.4
30°	405.8	570.2	590.8	473.9	414.0	467.4	587.0	561.4	400.2	288.8	246.9
32.5°	385.4	561.4	548.1	399.9	339.8	392.2	546.9	552.8	379.6	268.8	233.1
35°	365.1	549.3	497.1	326.2	280.8	324.7	495.4	541.3	358.6	249.9	220.7
37.5°	340.9	533.1	437.9	276.7	238.7	271.1	435.5	525.7	335.9	231.3	209.2
40°	318.0	513.3	376.6	236.0	210.1	232.2	374.0	506.3	312.1	214.5	197.7
42.5°	294.1	489.5	319.4	207.2	189.5	204.5	316.8	482.1	288.5	199.2	186.2
45°	270.5	461.2	271.1	184.5	173.6	183.9	268.8	454.1	265.5	184.5	175.0
47.5°	247.2	429.1	233.1	169.1	159.7	167.1	230.1	421.7	242.5	170.6	163.8
50°	224.5	392.8	203.0	154.4	146.8	152.6	199.8	382.8	219.5	157.4	152.1
52.5°	202.4	357.7	178.9	140.3	132.9	139.4	175.0	345.1	197.4	144.4	140.3
55°	181.8	317.7	157.1	127.0	121.1	125.8	154.7	306.5	177.1	132.0	129.1
57.5°	162.4	277.9	140.9	113.7	108.1	112.6	136.4	265.5	158.0	119.9	117.9
60°	143.5	239.6	124.1	100.5	95.8	99.6	120.2	226.9	139.1	107.6	107.3
62.5°	125.8	203.6	108.7	88.1	84.3	87.5	104.9	192.1	121.4	95.8	96.4
65°	109.3	170.9	93.4	77.2	73.1	76.0	90.8	161.2	105.2	84.3	85.8



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CATALOG NUMBER: S122-DR-LO-30-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°	93.4	139.1	81.0	65.4	63.1	64.8	77.5	132.0	89.3	71.9	74.0
70°	78.7	113.7	67.2	55.4	53.6	54.8	63.4	106.7	74.6	61.0	63.4
72.5°	63.9	91.4	55.4	46.3	44.5	45.4	52.5	84.9	60.1	50.4	53.0
75°	51.0	70.7	44.5	37.4	36.2	36.5	42.1	64.2	47.4	40.4	42.7
77.5°	38.9	52.7	34.5	29.2	28.3	28.6	32.1	47.1	35.7	30.9	32.7
80°	28.3	37.1	25.3	21.5	20.9	20.9	23.3	32.7	25.0	22.1	23.6
82.5°	18.9	24.5	17.7	15.0	14.4	14.4	15.6	20.6	15.9	14.4	15.6
85°	10.9	14.4	10.9	9.1	9.1	8.8	9.4	11.2	9.4	8.0	8.5
87.5°	5.3	6.5	5.3	4.4	4.4	3.8	4.1	4.1	3.2	2.7	2.7
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-30-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	525.1	525.1	525.1	525.1	525.1	525.1
1°	513.6	507.4	510.1	514.5	518.6	531.9
2°	502.1	495.1	498.9	505.7	513.9	531.6
3°	490.6	483.3	488.0	497.4	508.6	531.0
4°	478.0	470.9	475.6	488.3	503.3	529.8
5°	465.0	458.2	462.9	478.6	497.7	528.4
6°	452.3	445.0	450.3	468.5	491.8	526.9
7°	439.4	431.4	437.6	458.2	485.9	525.1
8°	427.0	418.2	425.5	447.6	479.2	523.1
9°	414.6	405.5	413.1	437.3	470.6	520.7
10°	402.5	393.1	400.8	427.0	462.9	517.8
11°	390.8	381.3	389.0	416.7	455.3	514.5
12°	379.3	369.5	377.5	406.4	447.9	511.6
13°	367.8	358.3	366.9	396.3	439.7	508.3
14°	356.9	347.1	356.6	386.3	431.7	503.9
15°	346.0	335.9	346.3	376.3	422.9	500.1
16°	335.3	325.6	335.9	366.6	414.3	495.7
17°	325.3	315.3	325.9	357.2	405.5	491.5
18°	315.6	305.6	315.6	347.7	398.4	485.9
19°	305.6	296.7	305.9	338.6	389.3	481.2
20°	296.7	288.2	296.5	327.1	379.8	475.0
21°	288.5	279.9	287.9	318.3	370.7	469.7
22°	280.5	272.6	279.7	311.5	361.6	462.7
23°	272.9	265.8	272.0	302.3	352.7	456.5
24°	265.8	260.2	265.2	293.8	343.9	449.7
25°	259.6	255.2	259.0	285.5	335.1	444.1
26°	254.3	250.5	253.7	277.9	325.9	437.0
27°	249.3	246.1	249.3	270.5	317.1	429.6
28°	244.9	241.6	244.6	263.7	308.5	421.4
29°	240.5	237.5	239.3	257.0	300.0	414.9
30°	236.0	233.7	235.2	250.8	291.7	405.8
32.5°	225.4	224.3	225.1	236.3	271.7	385.4
35°	215.1	214.8	215.7	224.3	252.8	365.1
37.5°	204.8	204.2	205.7	213.1	234.9	340.9
40°	193.9	192.7	194.8	202.2	218.7	318.0
42.5°	182.1	181.8	183.6	191.0	203.3	294.1
45°	170.9	171.8	172.7	179.5	188.6	270.5
47.5°	160.3	162.4	162.1	167.7	175.3	247.2
50°	150.3	153.2	152.1	155.6	162.4	224.5
52.5°	140.6	144.4	142.3	143.5	149.7	202.4
55°	131.1	134.1	133.2	131.7	137.6	181.8
57.5°	121.1	125.2	123.5	120.8	125.5	162.4
60°	110.8	114.9	113.2	109.6	113.2	143.5
62.5°	100.5	104.6	102.8	98.7	101.1	125.8
65°	90.2	93.1	92.5	88.4	89.3	109.3



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	79.6	82.5	81.3	77.5	77.5	93.4
70°	68.1	69.5	69.5	66.3	65.4	78.7
72.5°	56.0	58.3	57.8	55.7	54.5	63.9
75°	45.7	47.4	48.0	45.4	43.9	51.0
77.5°	35.4	36.5	37.7	35.4	34.2	38.9
80°	25.0	25.6	27.4	25.9	25.3	28.3
82.5°	16.2	16.8	18.0	17.7	17.4	18.9
85°	8.5	8.8	10.0	10.3	10.3	10.9
87.5°	2.4	2.9	3.5	4.1	4.7	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)