

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: P231545

Luminaire Tested: **S122-DR-LO-35-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231545
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-35-X-0048-1-U-DD-3-W
Description: DEFINE 2 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1360.8 lumens
Efficiency: N/A
Efficacy: 100.1 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

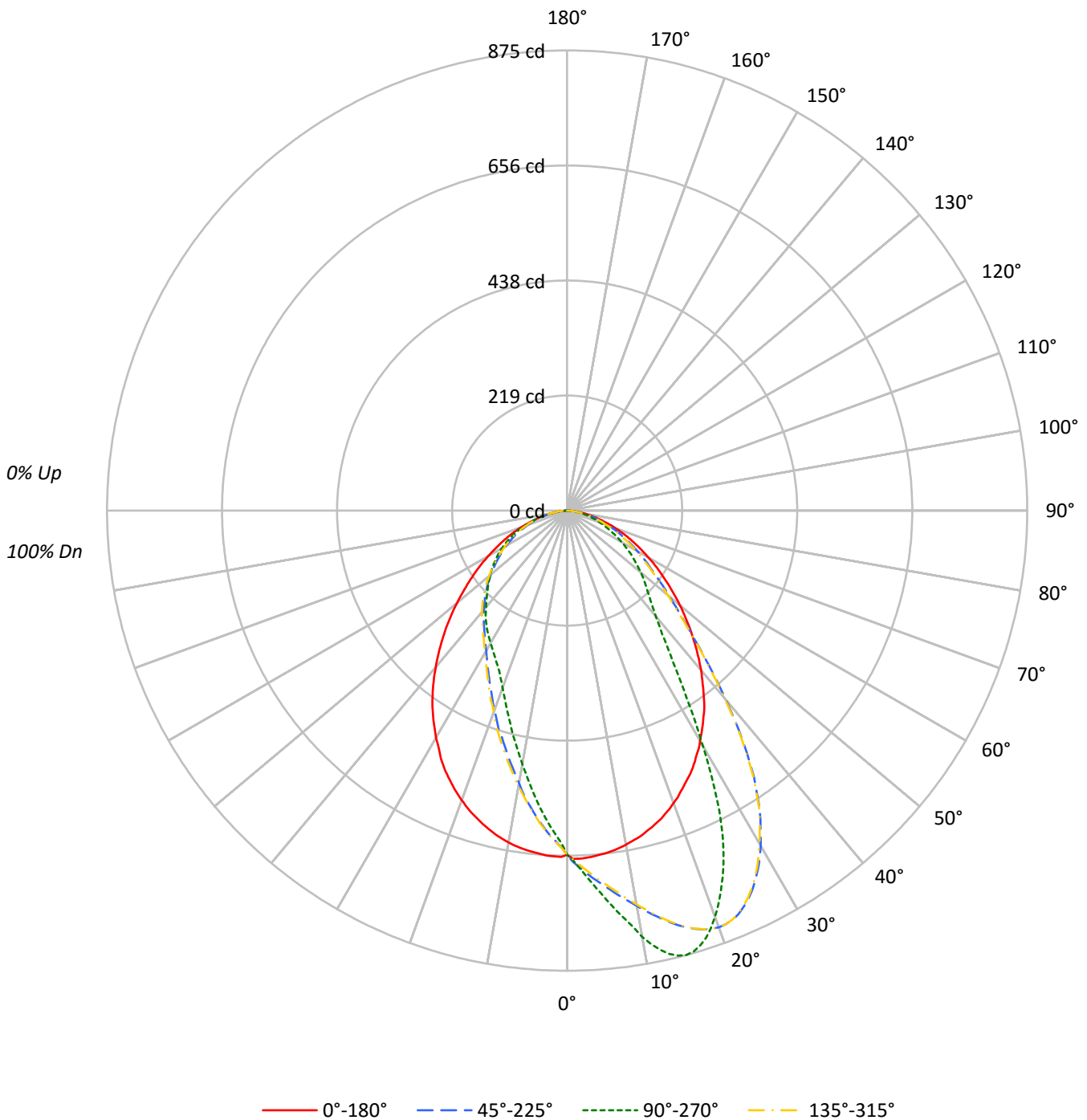
Input Watts (W): 13.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	12842	12842	12842	12842
5°	12970	14381	12883	11248
10°	12857	16413	12777	9761
15°	12661	17778	12549	8505
20°	12363	17169	12239	7499
25°	11982	15218	11848	6886
30°	11458	11692	11299	6598
35°	10899	8383	10707	6413
40°	10150	6706	9963	6153
45°	9355	6002	9183	5941
50°	8542	5583	8352	5830
55°	7752	5164	7550	5715
60°	7020	4684	6804	5622
65°	6326	4227	6089	5388
70°	5625	3834	5332	4970
75°	4816	3428	4482	4482
80°	3979	2950	3527	3606
85°	3063	2568	2635	2478



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.0	4.6
10°-20°	178.3	13.1
20°-30°	252.9	18.6
30°-40°	259.9	19.1
40°-50°	227.8	16.7
50°-60°	181.1	13.3
60°-70°	122.1	9.0
70°-80°	61.9	4.5
80°-90°	14.8	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°	493.2	36.2
0°-40°	753.1	55.3
0°-60°	1162.0	85.4
0°-90°	1360.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1360.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	654	654	654	654	654	
5°	658	730	654	571	658	62
15°	623	875	618	418	623	175
25°	553	703	547	318	553	254
35°	455	350	447	268	455	283
45°	337	216	331	214	337	260
55°	226	151	221	167	226	203
65°	136	91	131	116	136	135
75°	64	45	59	59	64	68
85°	14	11	12	11	14	17
90°	0	0	0	0	0	



TEST NUMBER: P231545

CATALOG NUMBER: S122-DR-LO-35-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	654.2	654.2	654.2	654.2	654.2	654.2	654.2	654.2	654.2	654.2	654.2
1°	662.6	663.0	668.5	673.3	665.6	664.1	663.7	655.6	658.9	645.0	640.2
2°	662.3	668.5	679.5	687.6	680.2	677.7	674.0	660.4	658.2	638.4	629.2
3°	661.5	674.0	690.2	701.5	696.0	691.3	684.6	665.6	657.5	631.8	618.6
4°	660.0	678.4	700.1	715.5	712.5	705.2	694.9	670.3	656.0	624.4	606.8
5°	658.2	683.2	710.3	730.5	729.8	719.5	705.6	674.7	653.8	617.8	594.3
6°	656.4	687.2	720.6	745.6	747.8	734.6	715.8	678.8	652.0	609.8	581.5
7°	654.2	690.9	731.3	762.1	765.8	750.4	726.5	682.8	649.8	601.7	568.3
8°	651.6	694.9	741.9	778.3	783.4	766.5	737.5	686.1	647.2	593.2	555.1
9°	648.7	698.2	752.6	795.1	801.4	782.3	748.9	689.4	644.3	584.4	542.2
10°	645.0	701.5	763.6	811.3	823.4	801.4	760.3	692.4	641.0	575.2	526.1
11°	641.0	704.5	774.6	826.7	839.9	816.4	771.6	695.7	636.9	565.7	512.5
12°	637.3	707.4	785.6	841.4	854.2	830.4	783.4	697.9	632.9	555.8	499.6
13°	633.3	709.6	796.2	853.9	865.3	843.2	794.4	699.7	627.7	545.5	486.8
14°	627.7	712.2	806.5	863.8	872.2	854.2	805.1	701.9	623.0	535.2	473.9
15°	623.0	714.0	816.1	870.0	874.8	862.0	815.0	704.5	617.5	524.6	461.4
16°	617.5	716.2	824.5	872.6	872.2	864.9	823.4	705.9	611.6	513.6	449.0
17°	612.3	717.7	831.9	870.8	864.9	862.7	831.1	707.8	606.1	502.9	439.8
18°	605.4	719.2	837.4	864.5	854.2	858.3	837.0	708.5	599.8	491.9	427.7
19°	599.5	720.6	841.4	854.6	839.6	848.4	841.4	709.6	593.2	480.9	415.6
20°	591.8	721.4	843.2	841.0	821.9	834.4	843.2	710.0	585.9	467.0	403.8
21°	585.2	721.7	842.5	824.9	802.1	817.9	842.5	710.3	578.9	455.9	392.8
22°	576.3	722.1	839.2	806.2	780.1	799.2	838.8	710.7	571.2	444.9	381.4
23°	568.6	722.1	833.7	786.0	756.6	778.6	832.2	710.7	563.1	433.2	371.1
24°	560.2	721.7	825.2	764.7	730.9	757.7	823.4	710.3	555.1	424.7	360.9
25°	553.2	721.0	815.0	741.9	702.6	735.7	812.8	709.6	547.0	413.4	350.9
26°	544.4	719.5	802.9	717.3	670.7	711.4	799.9	708.5	538.2	402.3	341.8
27°	535.2	718.1	788.5	690.2	635.1	684.6	785.6	707.0	529.0	391.3	332.6
28°	525.0	715.8	772.7	659.3	596.2	653.8	769.1	704.5	517.6	380.7	324.2
29°	516.9	713.3	755.1	626.3	555.8	618.9	750.7	702.3	507.7	370.0	315.7
30°	505.5	710.3	736.0	590.3	515.8	582.2	731.3	699.3	498.5	359.8	307.6
32.5°	480.2	699.3	682.8	498.2	423.3	488.6	681.3	688.7	472.8	334.8	290.4
35°	454.8	684.3	619.3	406.4	349.8	404.5	617.1	674.4	446.8	311.3	275.0
37.5°	424.7	664.1	545.5	344.7	297.4	337.7	542.6	654.9	418.5	288.2	260.6
40°	396.1	639.5	469.2	294.0	261.7	289.3	465.9	630.7	388.8	267.3	246.3
42.5°	366.4	609.8	397.9	258.1	236.0	254.8	394.6	600.6	359.4	248.2	232.0
45°	337.0	574.5	337.7	229.8	216.2	229.1	334.8	565.7	330.8	229.8	218.1
47.5°	308.0	534.5	290.4	210.7	199.0	208.1	286.7	525.3	302.1	212.6	204.1
50°	279.7	489.3	252.9	192.4	182.8	190.2	248.9	476.9	273.5	196.0	189.4
52.5°	252.2	445.7	222.8	174.7	165.6	173.6	218.1	429.9	246.0	179.9	174.7
55°	226.5	395.7	195.7	158.2	150.9	156.8	192.7	381.8	220.6	164.5	160.8
57.5°	202.3	346.2	175.5	141.7	134.7	140.2	170.0	330.8	196.8	149.4	146.8
60°	178.8	298.5	154.5	125.2	119.3	124.1	149.8	282.7	173.3	134.0	133.6
62.5°	156.8	253.7	135.5	109.8	105.0	109.0	130.7	239.4	151.2	119.3	120.0
65°	136.2	212.9	116.4	96.2	91.0	94.7	113.1	200.8	131.1	105.0	106.8



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CATALOG NUMBER: S122-DR-LO-35-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°	116.4	173.3	101.0	81.5	78.6	80.8	96.5	164.5	111.2	89.6	92.1
70°	98.0	141.7	83.7	69.0	66.8	68.3	78.9	132.9	92.9	76.0	78.9
72.5°	79.7	113.8	69.0	57.6	55.4	56.5	65.3	105.7	74.9	62.8	66.1
75°	63.5	88.1	55.4	46.6	45.2	45.5	52.5	80.0	59.1	50.3	53.2
77.5°	48.5	65.7	43.0	36.3	35.2	35.6	40.0	58.7	44.4	38.5	40.7
80°	35.2	46.3	31.6	26.8	26.1	26.1	29.0	40.7	31.2	27.5	29.4
82.5°	23.5	30.5	22.0	18.7	18.0	18.0	19.5	25.7	19.8	18.0	19.5
85°	13.6	18.0	13.6	11.4	11.4	11.0	11.7	13.9	11.7	9.9	10.6
87.5°	6.6	8.1	6.6	5.5	5.5	4.8	5.1	5.1	4.0	3.3	3.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P231545

CATALOG NUMBER: S122-DR-LO-35-X-0048-1-U-DD-3-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	654.2	654.2	654.2	654.2	654.2	654.2
1°	639.9	632.1	635.5	641.0	646.1	662.6
2°	625.5	616.7	621.5	629.9	640.2	662.3
3°	611.2	602.0	607.9	619.7	633.6	661.5
4°	595.4	586.6	592.5	608.3	627.0	660.0
5°	579.3	570.8	576.7	596.2	620.0	658.2
6°	563.5	554.3	560.9	583.7	612.7	656.4
7°	547.3	537.4	545.1	570.8	605.4	654.2
8°	531.9	520.9	530.1	557.6	596.9	651.6
9°	516.5	505.1	514.7	544.8	586.3	648.7
10°	501.5	489.7	499.3	531.9	576.7	645.0
11°	486.8	475.0	484.6	519.1	567.2	641.0
12°	472.5	460.3	470.3	506.2	558.0	637.3
13°	458.1	446.4	457.0	493.8	547.7	633.3
14°	444.6	432.4	444.2	481.3	537.8	627.7
15°	431.0	418.5	431.3	468.8	526.8	623.0
16°	417.8	405.6	418.5	456.7	516.1	617.5
17°	405.3	392.8	406.0	444.9	505.1	612.3
18°	393.2	380.7	393.2	433.2	496.3	605.4
19°	380.7	369.7	381.1	421.8	484.9	599.5
20°	369.7	359.0	369.3	407.5	473.2	591.8
21°	359.4	348.7	358.7	396.5	461.8	585.2
22°	349.5	339.6	348.4	388.0	450.4	576.3
23°	339.9	331.1	338.8	376.6	439.4	568.6
24°	331.1	324.2	330.4	366.0	428.4	560.2
25°	323.4	317.9	322.7	355.7	417.4	553.2
26°	316.8	312.0	316.1	346.2	406.0	544.4
27°	310.6	306.5	310.6	337.0	395.0	535.2
28°	305.1	301.0	304.7	328.6	384.4	525.0
29°	299.6	295.9	298.1	320.1	373.7	516.9
30°	294.0	291.1	292.9	312.4	363.4	505.5
32.5°	280.8	279.4	280.5	294.4	338.5	480.2
35°	268.0	267.6	268.7	279.4	315.0	454.8
37.5°	255.1	254.4	256.2	265.4	292.6	424.7
40°	241.6	240.1	242.7	251.8	272.4	396.1
42.5°	226.9	226.5	228.7	237.9	253.3	366.4
45°	212.9	214.0	215.1	223.6	234.9	337.0
47.5°	199.7	202.3	201.9	208.9	218.4	308.0
50°	187.2	190.9	189.4	193.8	202.3	279.7
52.5°	175.1	179.9	177.3	178.8	186.5	252.2
55°	163.4	167.0	165.9	164.1	171.4	226.5
57.5°	150.9	156.0	153.8	150.5	156.4	202.3
60°	138.0	143.2	141.0	136.6	141.0	178.8
62.5°	125.2	130.3	128.1	123.0	125.9	156.8
65°	112.3	116.0	115.3	110.1	111.2	136.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	99.1	102.8	101.3	96.5	96.5	116.4
70°	84.8	86.6	86.6	82.6	81.5	98.0
72.5°	69.7	72.7	72.0	69.4	67.9	79.7
75°	56.9	59.1	59.8	56.5	54.7	63.5
77.5°	44.1	45.5	47.0	44.1	42.6	48.5
80°	31.2	31.9	34.1	32.3	31.6	35.2
82.5°	20.2	20.9	22.4	22.0	21.7	23.5
85°	10.6	11.0	12.5	12.8	12.8	13.6
87.5°	2.9	3.7	4.4	5.1	5.9	6.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)