

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242347

Luminaire Tested: S122DRP-S1005D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242347  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S1005D935-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

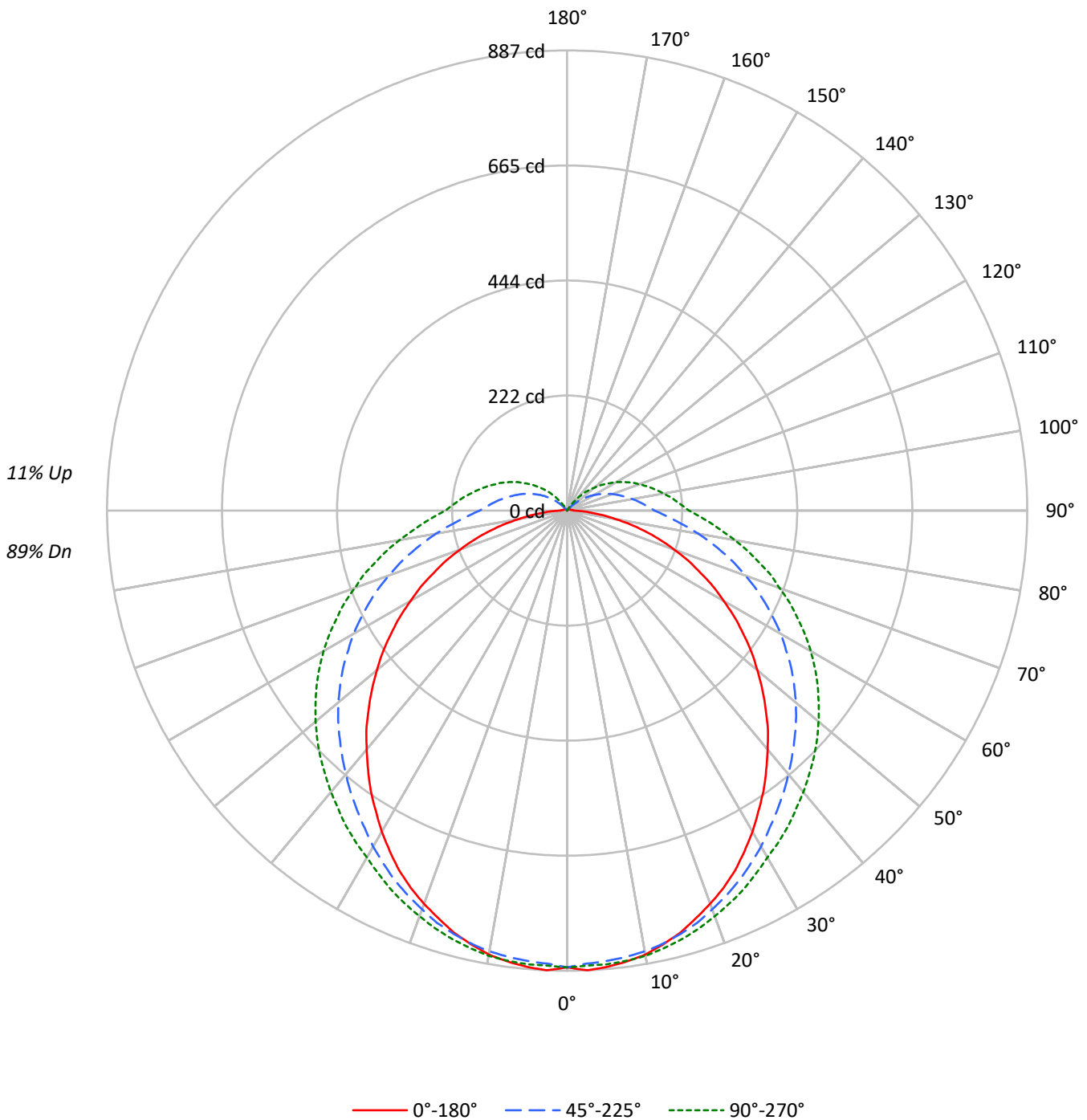
Lumens per Lamp: N/A  
Luminaire Lumens: 3359.6 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: 24 FT

TEST NUMBER: P242347

CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242347

CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

**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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	85	81	82	79	77	77	75	72	69
2	94	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	42	39
5	71	57	48	41	68	56	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16772	16772	16772
5°	16852	16076	15987
10°	16744	15536	15315
15°	16513	14977	14622
20°	16221	14386	13961
25°	15931	13820	13362
30°	15524	13242	12768
35°	15112	12686	12335
40°	14679	12206	11903
45°	14269	11771	11528
50°	13825	11372	11157
55°	13361	10947	10780
60°	12796	10505	10383
65°	12206	9994	9924
70°	11542	9446	9429
75°	10696	8899	8963
80°	9356	8330	8482
85°	8052	7799	8073

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14269 cd/sqm



TEST NUMBER: P242347

CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.5	2.5
10°-20°	239.4	7.1
20°-30°	362.7	10.8
30°-40°	441.7	13.1
40°-50°	475.2	14.1
50°-60°	461.5	13.7
60°-70°	403.0	12.0
70°-80°	310.2	9.2
80°-90°	207.8	6.2
90°-100°	143.3	4.3
100°-110°	104.7	3.1
110°-120°	69.1	2.1
120°-130°	38.5	1.1
130°-140°	16.2	0.5
140°-150°	2.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	685.6	20.4
0°-40°	1127.3	33.6
0°-60°	2064.1	61.4
0°-90°	2985.1	88.9
90°-120°	317.1	9.4
90°-150°	374.5	11.1
90°-180°	375.0	11.2
0°-180°	3359.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	880	880	880	880	880	
5°	883	879	872	879	878	84
15°	842	845	845	856	855	237
25°	766	775	786	801	805	352
35°	660	681	706	734	743	412
45°	541	576	620	660	672	418
55°	415	461	527	573	590	371
65°	283	346	421	473	490	281
75°	157	228	310	365	382	166
85°	46	125	207	260	278	48
90°	13	87	168	220	235	9
95°	10	70	147	195	211	8
105°	6	43	110	154	168	7
115°	5	19	77	115	129	5
125°	3	3	43	78	89	3
135°	1	1	14	41	51	1
145°	0	0	0	8	14	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P242347

CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	880.5	880.5	880.5	880.5	880.5
2.5°	886.9	883.0	874.1	880.5	877.9
5°	883.0	879.2	871.6	879.2	877.9
7.5°	876.7	874.1	867.7	876.7	875.4
10°	869.0	866.5	862.6	872.8	871.6
12.5°	856.2	857.5	855.0	865.2	863.9
15°	842.2	844.8	844.8	856.2	855.0
17.5°	824.3	829.4	833.3	844.8	844.8
20°	806.5	812.9	818.0	832.0	832.0
22.5°	787.3	795.0	802.6	816.7	819.2
25°	765.6	774.6	786.1	801.4	805.2
27.5°	740.1	754.2	766.9	786.1	788.6
30°	714.6	731.2	747.8	768.2	772.0
32.5°	686.5	705.7	726.1	750.3	758.0
35°	659.7	681.4	705.7	733.7	742.7
37.5°	630.4	654.6	685.2	715.9	724.8
40°	601.0	629.1	663.6	696.7	708.2
42.5°	573.0	601.0	641.9	678.9	690.4
45°	541.1	575.5	620.2	659.7	672.5
47.5°	510.4	547.4	598.5	639.3	653.3
50°	478.5	518.1	575.5	618.9	632.9
52.5°	447.9	490.0	551.3	595.9	611.2
55°	414.7	460.7	527.0	573.0	589.5
57.5°	382.8	433.9	500.2	550.0	566.6
60°	348.4	403.2	476.0	524.5	542.3
62.5°	317.7	375.2	447.9	500.2	516.8
65°	283.3	345.8	421.1	473.4	490.0
67.5°	252.7	317.7	394.3	446.6	464.5
70°	219.5	285.8	365.0	419.8	435.1
72.5°	188.9	257.8	338.2	391.8	410.9
75°	157.0	228.4	310.1	365.0	381.5
77.5°	126.3	200.3	283.3	338.2	356.0
80°	95.7	173.5	256.5	310.1	327.9
82.5°	70.2	146.7	231.0	284.6	301.2
85°	45.9	125.1	206.7	260.3	278.2
87.5°	28.1	104.6	186.3	238.6	255.2
90°	12.8	86.8	168.4	219.5	234.8
92.5°	11.5	79.1	157.0	206.7	222.0
95°	10.2	70.2	146.7	195.2	210.6
97.5°	8.9	63.8	137.8	185.0	200.3
100°	8.9	56.1	127.6	174.8	188.9
102.5°	7.7	49.8	118.7	164.6	178.6
105°	6.4	43.4	109.7	154.4	168.4
107.5°	6.4	37.0	100.8	144.2	158.2
110°	5.1	30.6	93.2	134.0	148.0



TEST NUMBER: P242347

CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.1	25.5	84.2	125.1	139.1
115°	5.1	19.1	76.6	114.8	128.9
117.5°	3.8	14.0	67.6	105.9	118.7
120°	3.8	8.9	60.0	95.7	109.7
122.5°	3.8	5.1	52.3	86.8	98.3
125°	2.6	2.6	43.4	77.8	89.3
127.5°	2.6	1.3	35.7	67.6	79.1
130°	2.6	1.3	28.1	58.7	68.9
132.5°	2.6	1.3	20.4	49.8	60.0
135°	1.3	1.3	14.0	40.8	51.0
137.5°	1.3	1.3	7.7	31.9	40.8
140°	1.3	0.0	2.6	23.0	30.6
142.5°	1.3	0.0	0.0	15.3	21.7
145°	0.0	0.0	0.0	7.7	14.0
147.5°	0.0	0.0	0.0	1.3	5.1
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242347  
 CATALOG NUMBER: S122DRP-S1005D935-X4F0-XX-UDD-D-W

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.02	19.50	18.54	20.03	20.60	21.08	22.56	21.60	23.09	23.67
	3H	19.52	20.87	20.05	21.41	22.02	23.71	25.06	24.24	25.60	26.21
	4H	20.02	21.30	20.58	21.86	22.48	24.99	26.27	25.54	26.82	27.45
	6H	20.33	21.53	20.90	22.10	22.74	26.32	27.52	26.89	28.08	28.73
	8H	20.41	21.56	20.99	22.15	22.80	27.00	28.15	27.58	28.74	29.39
	12H	20.45	21.55	21.04	22.13	22.81	27.75	28.86	28.34	29.44	30.12
4H	2H	19.13	20.41	19.69	20.97	21.59	21.47	22.75	22.03	23.31	23.94
	3H	20.88	21.98	21.46	22.58	23.23	24.31	25.41	24.88	26.00	26.65
	4H	21.53	22.54	22.12	23.14	23.82	25.75	26.76	26.34	27.36	28.04
	6H	21.98	22.87	22.59	23.50	24.19	27.26	28.15	27.87	28.78	29.47
	8H	22.10	22.95	22.72	23.57	24.28	28.04	28.88	28.65	29.51	30.21
	12H	22.18	22.95	22.82	23.60	24.31	28.91	29.67	29.54	30.33	31.04
8H	4H	22.37	23.21	22.99	23.84	24.55	25.95	26.79	26.56	27.41	28.12
	6H	23.03	23.75	23.68	24.41	25.13	27.61	28.32	28.25	28.99	29.70
	8H	23.26	23.91	23.92	24.58	25.31	28.51	29.16	29.17	29.83	30.56
	12H	23.43	24.01	24.09	24.67	25.46	29.54	30.12	30.21	30.79	31.57
12H	4H	22.60	23.37	23.24	24.02	24.73	25.95	26.72	26.59	27.37	28.08
	6H	23.38	24.02	24.03	24.70	25.42	27.64	28.29	28.30	28.96	29.69
	8H	23.71	24.29	24.37	24.95	25.74	28.61	29.19	29.27	29.85	30.64