

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: P243207

Luminaire Tested: S122DRP-H1005D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243207  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H1005D935-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

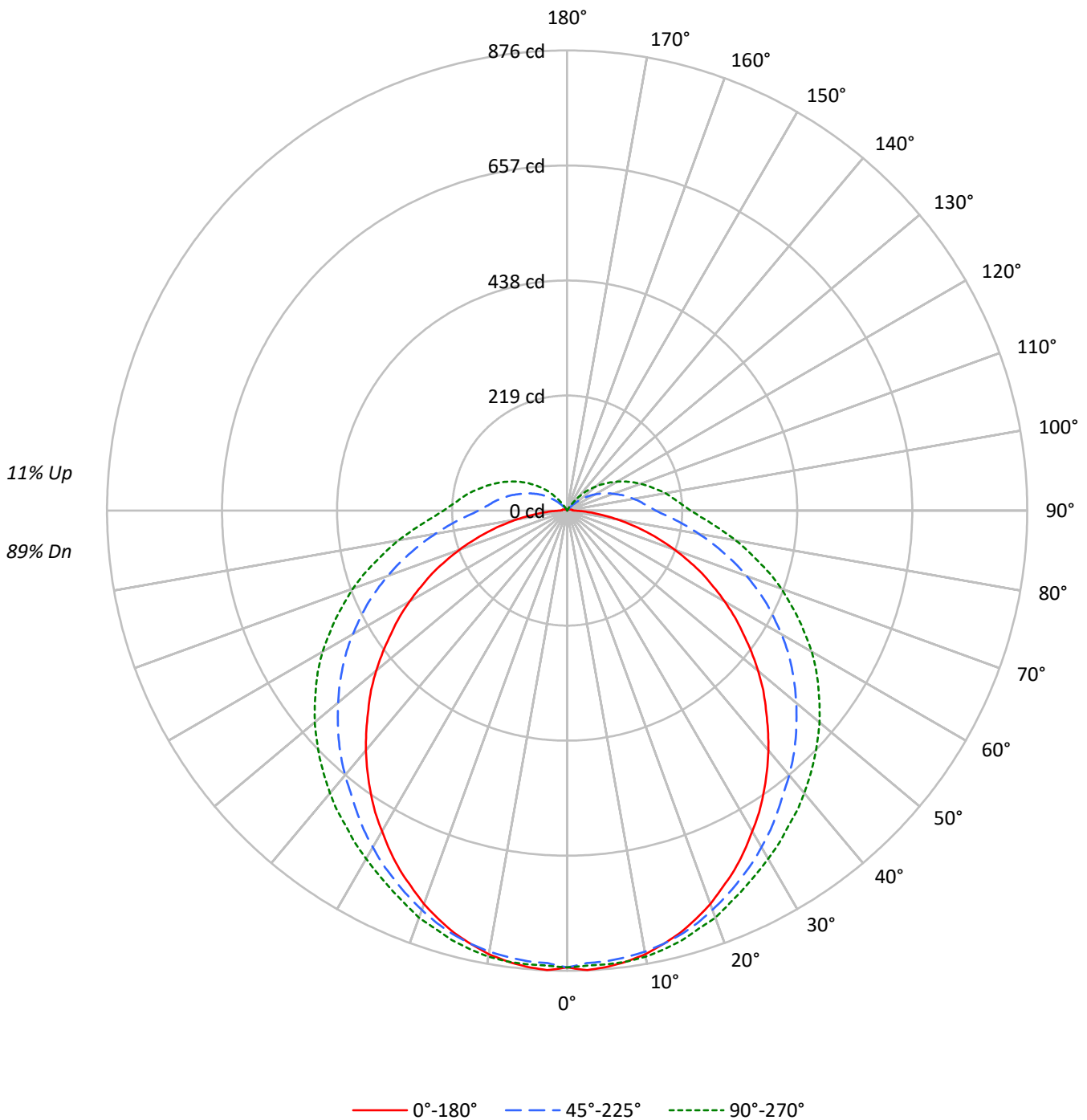
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3336.8 lumens  
Efficiency: N/A  
Efficacy: 88.5 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): 37.7  
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

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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	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	84	81	82	79	76	77	74	72	69
2	93	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	41	39
5	71	57	48	41	68	55	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	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	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°	16564	16564	16564
5°	16642	15882	15790
10°	16523	15355	15152
15°	16313	14815	14478
20°	16028	14228	13840
25°	15700	13647	13185
30°	15314	13104	12658
35°	14954	12562	12189
40°	14554	12096	11805
45°	14116	11677	11418
50°	13718	11247	11058
55°	13191	10843	10674
60°	12722	10397	10295
65°	12210	9944	9837
70°	11464	9402	9396
75°	10641	8827	8878
80°	9474	8258	8427
85°	8280	7814	7977

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14116 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.5	2.5
10°-20°	236.7	7.1
20°-30°	358.6	10.7
30°-40°	437.3	13.1
40°-50°	470.6	14.1
50°-60°	457.6	13.7
60°-70°	400.0	12.0
70°-80°	308.0	9.2
80°-90°	206.9	6.2
90°-100°	143.2	4.3
100°-110°	105.3	3.2
110°-120°	70.1	2.1
120°-130°	39.7	1.2
130°-140°	17.1	0.5
140°-150°	3.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	677.7	20.3
0°-40°	1115.1	33.4
0°-60°	2043.3	61.2
0°-90°	2958.2	88.7
90°-120°	318.6	9.5
90°-150°	378.5	11.3
90°-180°	379.0	11.4
0°-180°	3336.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	870	870	870	870	870	
5°	872	868	861	868	867	83
15°	832	836	836	847	847	234
25°	754	767	776	793	794	347
35°	653	675	699	725	734	408
45°	535	568	615	653	666	414
55°	409	458	522	569	584	367
65°	283	344	419	470	486	279
75°	156	228	308	362	378	165
85°	47	125	207	259	275	49
90°	13	87	168	219	235	9
95°	10	70	146	195	210	8
105°	7	44	111	155	168	8
115°	5	21	78	116	130	5
125°	4	2	46	79	91	3
135°	1	1	16	42	53	1
145°	1	0	0	10	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	869.6	869.6	869.6	869.6	869.6
2.5°	875.6	872.0	862.3	869.6	867.1
5°	872.0	868.4	861.1	868.4	867.1
7.5°	865.9	863.5	857.5	867.1	865.9
10°	857.5	856.2	852.6	862.3	862.3
12.5°	845.3	846.6	845.3	856.2	855.0
15°	832.0	835.7	835.7	846.6	846.6
17.5°	815.1	821.1	823.5	835.7	834.4
20°	796.9	804.2	809.0	822.3	824.8
22.5°	775.1	786.0	793.3	807.8	809.0
25°	754.5	766.6	776.3	793.3	794.5
27.5°	730.3	744.8	759.4	776.3	779.9
30°	704.9	723.0	740.0	760.6	765.4
32.5°	680.6	698.8	720.6	742.4	750.9
35°	652.8	674.6	698.8	725.4	733.9
37.5°	624.9	647.9	677.0	708.5	719.4
40°	595.9	622.5	657.6	691.5	702.4
42.5°	565.6	594.6	637.0	672.2	684.3
45°	535.3	568.0	615.2	652.8	666.1
47.5°	506.2	541.4	592.2	634.6	646.7
50°	474.8	513.5	569.2	612.8	627.3
52.5°	442.1	485.7	546.2	591.0	605.5
55°	409.4	457.8	522.0	569.2	583.7
57.5°	379.1	429.9	497.8	545.0	561.9
60°	346.4	400.9	471.1	520.8	537.7
62.5°	313.7	373.0	444.5	495.3	511.1
65°	283.4	344.0	419.0	469.9	485.7
67.5°	249.5	313.7	391.2	444.5	459.0
70°	218.0	285.8	363.3	416.6	433.6
72.5°	186.5	255.5	335.5	388.8	406.9
75°	156.2	227.7	307.6	362.1	377.9
77.5°	124.7	199.8	281.0	335.5	351.2
80°	96.9	172.0	254.3	308.8	325.8
82.5°	69.0	146.5	230.1	283.4	299.1
85°	47.2	124.7	207.1	259.2	274.9
87.5°	27.9	104.2	185.3	237.4	253.1
90°	13.3	87.2	168.3	219.2	235.0
92.5°	10.9	78.7	156.2	205.9	221.6
95°	9.7	70.2	146.5	195.0	209.5
97.5°	9.7	64.2	138.1	185.3	199.8
100°	8.5	56.9	128.4	174.4	190.1
102.5°	8.5	49.7	119.9	164.7	179.2
105°	7.3	43.6	111.4	155.0	168.3
107.5°	6.1	37.5	101.7	145.3	158.7
110°	6.1	31.5	93.3	135.6	149.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.8	26.6	86.0	126.0	139.3
115°	4.8	20.6	77.5	116.3	129.6
117.5°	4.8	14.5	69.0	106.6	119.9
120°	3.6	9.7	61.8	98.1	110.2
122.5°	3.6	6.1	53.3	88.4	100.5
125°	3.6	2.4	46.0	78.7	90.8
127.5°	2.4	2.4	37.5	70.2	81.1
130°	2.4	1.2	30.3	60.6	71.5
132.5°	2.4	1.2	23.0	52.1	61.8
135°	1.2	1.2	15.7	42.4	53.3
137.5°	1.2	1.2	8.5	33.9	42.4
140°	1.2	0.0	3.6	25.4	32.7
142.5°	1.2	0.0	0.0	17.0	24.2
145°	1.2	0.0	0.0	9.7	14.5
147.5°	0.0	0.0	0.0	2.4	7.3
150°	0.0	0.0	0.0	0.0	1.2
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



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**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	17.97	19.45	18.50	19.98	20.56	21.03	22.51	21.56	23.04	23.63
	3H	19.47	20.82	20.01	21.36	21.98	23.67	25.02	24.21	25.56	26.18
	4H	19.97	21.26	20.53	21.81	22.45	24.95	26.23	25.51	26.78	27.42
	6H	20.29	21.49	20.87	22.06	22.71	26.27	27.47	26.85	28.04	28.69
	8H	20.37	21.52	20.95	22.11	22.76	26.96	28.10	27.54	28.70	29.35
	12H	20.41	21.51	21.00	22.09	22.78	27.71	28.81	28.30	29.40	30.08
4H	2H	19.09	20.37	19.65	20.93	21.56	21.43	22.71	21.99	23.27	23.90
	3H	20.85	21.95	21.42	22.54	23.20	24.27	25.37	24.85	25.97	26.62
	4H	21.50	22.51	22.09	23.11	23.80	25.71	26.72	26.31	27.33	28.01
	6H	21.95	22.84	22.56	23.47	24.17	27.22	28.11	27.83	28.74	29.44
	8H	22.08	22.92	22.69	23.55	24.26	28.00	28.84	28.62	29.47	30.18
	12H	22.15	22.92	22.79	23.57	24.29	28.87	29.63	29.51	30.29	31.00
8H	4H	22.34	23.18	22.95	23.81	24.52	25.91	26.75	26.52	27.38	28.09
	6H	23.00	23.72	23.65	24.38	25.10	27.57	28.28	28.22	28.95	29.67
	8H	23.23	23.88	23.89	24.56	25.28	28.48	29.12	29.14	29.80	30.53
	12H	23.40	23.98	24.06	24.64	25.43	29.51	30.09	30.17	30.75	31.54
12H	4H	22.57	23.33	23.21	23.99	24.70	25.91	26.68	26.55	27.33	28.05
	6H	23.34	23.99	24.00	24.67	25.40	27.60	28.25	28.26	28.93	29.65
	8H	23.68	24.26	24.35	24.93	25.72	28.57	29.15	29.23	29.82	30.61