

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: P243202

Luminaire Tested: S122DRP-H1005D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243202  
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-H1005D930-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

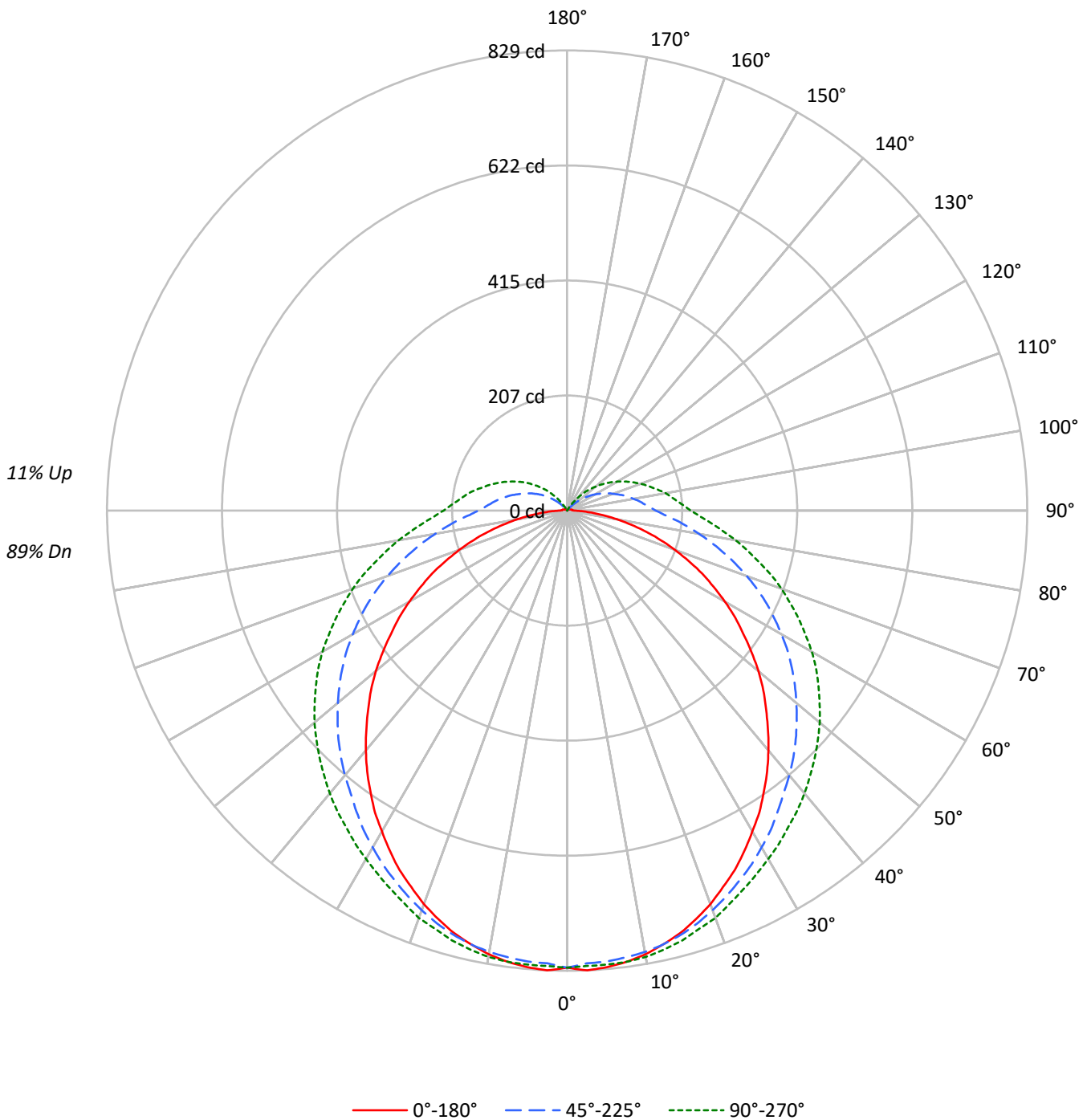
Lumens per Lamp: N/A  
Luminaire Lumens: 3159.7 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

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°	15684	15684	15684
5°	15758	15039	14952
10°	15644	14541	14347
15°	15448	14028	13708
20°	15177	13473	13105
25°	14867	12923	12484
30°	14499	12408	11987
35°	14159	11895	11543
40°	13780	11454	11180
45°	13367	11058	10812
50°	12990	10651	10473
55°	12488	10267	10109
60°	12047	9845	9749
65°	11564	9417	9314
70°	10854	8903	8898
75°	10076	8359	8406
80°	8965	7820	7980
85°	7842	7399	7554

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13367 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.1	2.5
10°-20°	224.2	7.1
20°-30°	339.5	10.7
30°-40°	414.1	13.1
40°-50°	445.7	14.1
50°-60°	433.3	13.7
60°-70°	378.8	12.0
70°-80°	291.6	9.2
80°-90°	195.9	6.2
90°-100°	135.6	4.3
100°-110°	99.7	3.2
110°-120°	66.4	2.1
120°-130°	37.6	1.2
130°-140°	16.1	0.5
140°-150°	3.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	641.8	20.3
0°-40°	1055.9	33.4
0°-60°	1934.8	61.2
0°-90°	2801.2	88.7
90°-120°	301.7	9.5
90°-150°	358.4	11.3
90°-180°	358.0	11.3
0°-180°	3159.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	823	823	823	823	823	
5°	826	822	815	822	821	78
15°	788	791	791	802	802	222
25°	714	726	735	751	752	329
35°	618	639	662	687	695	387
45°	507	538	583	618	631	392
55°	388	434	494	539	553	348
65°	268	326	397	445	460	264
75°	148	216	291	343	358	156
85°	45	118	196	245	260	46
90°	13	83	159	208	222	8
95°	9	66	139	185	198	8
105°	7	41	106	147	159	7
115°	5	20	73	110	123	5
125°	3	2	44	74	86	3
135°	1	1	15	40	50	1
145°	1	0	0	9	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°	823.4	823.4	823.4	823.4	823.4
2.5°	829.1	825.7	816.5	823.4	821.1
5°	825.7	822.3	815.4	822.3	821.1
7.5°	820.0	817.7	811.9	821.1	820.0
10°	811.9	810.8	807.4	816.5	816.5
12.5°	800.5	801.6	800.5	810.8	809.7
15°	787.9	791.3	791.3	801.6	801.6
17.5°	771.8	777.5	779.8	791.3	790.2
20°	754.6	761.5	766.1	778.7	781.0
22.5°	734.0	744.3	751.2	764.9	766.1
25°	714.5	725.9	735.1	751.2	752.3
27.5°	691.5	705.3	719.1	735.1	738.5
30°	667.4	684.6	700.7	720.2	724.8
32.5°	644.5	661.7	682.4	703.0	711.0
35°	618.1	638.8	661.7	686.9	695.0
37.5°	591.8	613.5	641.1	670.9	681.2
40°	564.2	589.5	622.7	654.8	665.2
42.5°	535.6	563.1	603.2	636.5	648.0
45°	506.9	537.9	582.6	618.1	630.7
47.5°	479.4	512.6	560.8	600.9	612.4
50°	449.6	486.2	539.0	580.3	594.1
52.5°	418.6	459.9	517.2	559.6	573.4
55°	387.6	433.5	494.3	539.0	552.8
57.5°	359.0	407.1	471.3	516.1	532.1
60°	328.0	379.6	446.1	493.1	509.2
62.5°	297.0	353.2	420.9	469.0	484.0
65°	268.4	325.7	396.8	445.0	459.9
67.5°	236.2	297.0	370.4	420.9	434.6
70°	206.4	270.6	344.0	394.5	410.6
72.5°	176.6	242.0	317.7	368.1	385.3
75°	147.9	215.6	291.3	342.9	357.8
77.5°	118.1	189.2	266.1	317.7	332.6
80°	91.7	162.8	240.8	292.4	308.5
82.5°	65.4	138.8	217.9	268.4	283.3
85°	44.7	118.1	196.1	245.4	260.3
87.5°	26.4	98.6	175.5	224.8	239.7
90°	12.6	82.6	159.4	207.6	222.5
92.5°	10.3	74.5	147.9	195.0	209.9
95°	9.2	66.5	138.8	184.6	198.4
97.5°	9.2	60.8	130.7	175.5	189.2
100°	8.0	53.9	121.6	165.1	180.1
102.5°	8.0	47.0	113.5	156.0	169.7
105°	6.9	41.3	105.5	146.8	159.4
107.5°	5.7	35.6	96.3	137.6	150.2
110°	5.7	29.8	88.3	128.4	141.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.6	25.2	81.4	119.3	131.9
115°	4.6	19.5	73.4	110.1	122.7
117.5°	4.6	13.8	65.4	100.9	113.5
120°	3.4	9.2	58.5	92.9	104.4
122.5°	3.4	5.7	50.5	83.7	95.2
125°	3.4	2.3	43.6	74.5	86.0
127.5°	2.3	2.3	35.6	66.5	76.8
130°	2.3	1.1	28.7	57.3	67.7
132.5°	2.3	1.1	21.8	49.3	58.5
135°	1.1	1.1	14.9	40.1	50.5
137.5°	1.1	1.1	8.0	32.1	40.1
140°	1.1	0.0	3.4	24.1	31.0
142.5°	1.1	0.0	0.0	16.1	22.9
145°	1.1	0.0	0.0	9.2	13.8
147.5°	0.0	0.0	0.0	2.3	6.9
150°	0.0	0.0	0.0	0.0	1.1
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	17.78	19.26	18.31	19.79	20.37	20.84	22.32	21.37	22.85	23.44
	3H	19.28	20.63	19.82	21.17	21.79	23.48	24.83	24.02	25.37	25.99
	4H	19.78	21.07	20.35	21.62	22.26	24.76	26.04	25.32	26.59	27.23
	6H	20.10	21.30	20.68	21.87	22.52	26.08	27.28	26.66	27.85	28.50
	8H	20.18	21.33	20.76	21.92	22.57	26.77	27.92	27.35	28.51	29.16
	12H	20.22	21.32	20.81	21.90	22.59	27.52	28.62	28.11	29.21	29.89
4H	2H	18.90	20.18	19.46	20.74	21.37	21.24	22.52	21.80	23.08	23.71
	3H	20.66	21.76	21.23	22.35	23.01	24.08	25.18	24.66	25.78	26.43
	4H	21.31	22.32	21.90	22.92	23.61	25.52	26.53	26.12	27.14	27.82
	6H	21.76	22.65	22.37	23.28	23.98	27.03	27.92	27.64	28.55	29.25
	8H	21.89	22.73	22.50	23.36	24.07	27.81	28.65	28.43	29.28	29.99
	12H	21.96	22.73	22.60	23.38	24.10	28.68	29.44	29.32	30.10	30.81
8H	4H	22.15	22.99	22.76	23.62	24.33	25.72	26.56	26.33	27.19	27.90
	6H	22.81	23.53	23.46	24.19	24.91	27.38	28.09	28.03	28.76	29.48
	8H	23.04	23.69	23.70	24.37	25.09	28.29	28.93	28.95	29.61	30.34
	12H	23.21	23.79	23.87	24.46	25.25	29.32	29.90	29.98	30.56	31.35
12H	4H	22.38	23.14	23.02	23.80	24.51	25.72	26.49	26.36	27.14	27.86
	6H	23.15	23.80	23.81	24.48	25.21	27.41	28.06	28.07	28.74	29.46
	8H	23.49	24.07	24.16	24.74	25.53	28.38	28.96	29.05	29.63	30.42