

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: P242320

Luminaire Tested: S122DRP-S485D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242320  
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-S485D927-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

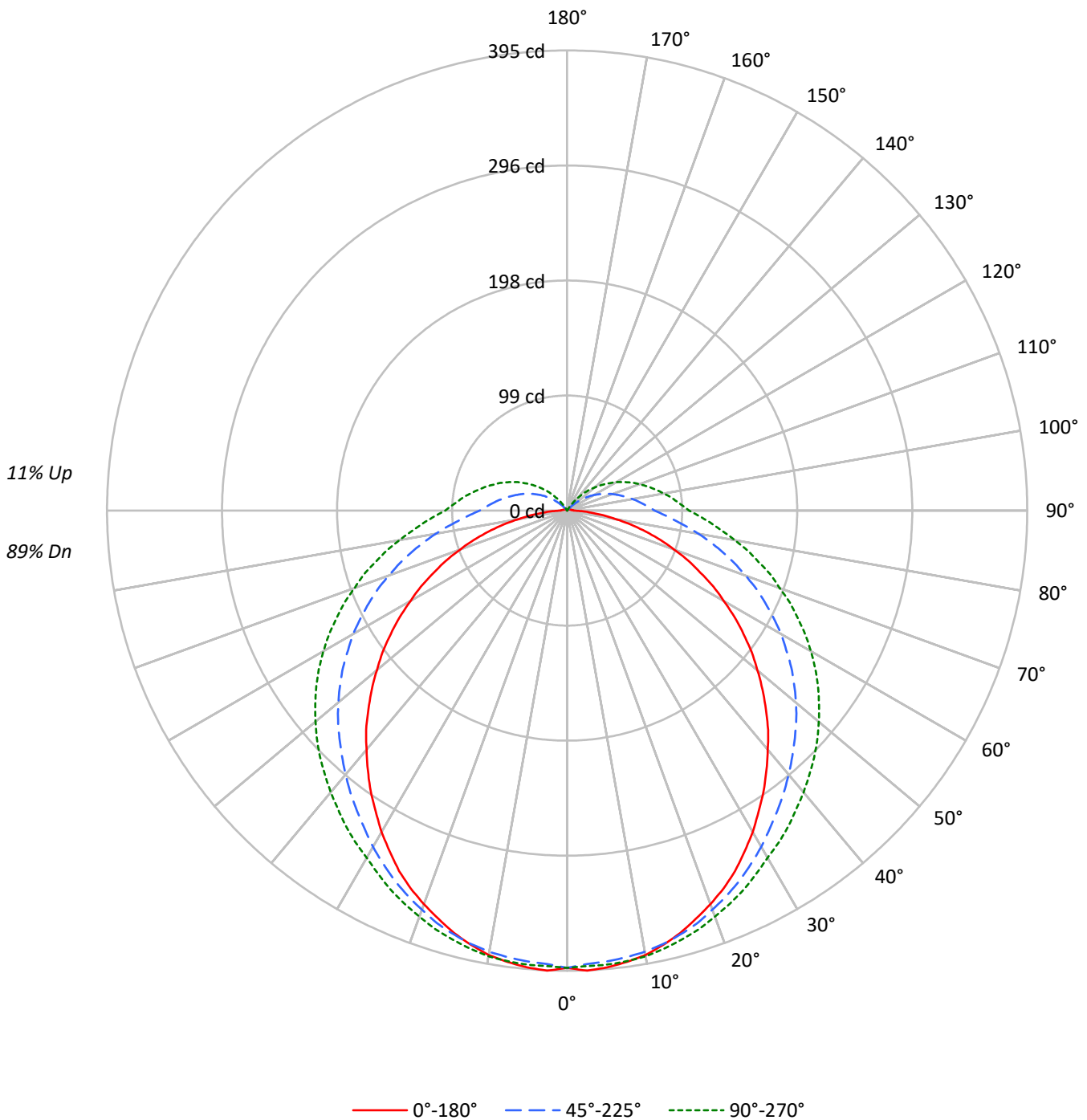
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1497.5 lumens  
Efficiency: N/A  
Efficacy: 79.7 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): 18.8  
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: 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	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°	7476	7476	7476
5°	7512	7165	7126
10°	7465	6925	6826
15°	7360	6676	6517
20°	7231	6412	6224
25°	7102	6160	5956
30°	6919	5902	5691
35°	6737	5655	5497
40°	6543	5441	5306
45°	6361	5246	5139
50°	6163	5068	4973
55°	5957	4879	4806
60°	5704	4683	4628
65°	5441	4455	4423
70°	5143	4211	4204
75°	4769	3966	3996
80°	4175	3712	3782
85°	3596	3475	3598

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6361 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.2	2.5
10°-20°	106.7	7.1
20°-30°	161.7	10.8
30°-40°	196.9	13.1
40°-50°	211.8	14.1
50°-60°	205.7	13.7
60°-70°	179.7	12.0
70°-80°	138.3	9.2
80°-90°	92.6	6.2
90°-100°	63.9	4.3
100°-110°	46.7	3.1
110°-120°	30.8	2.1
120°-130°	17.2	1.1
130°-140°	7.2	0.5
140°-150°	1.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	305.6	20.4
0°-40°	502.5	33.6
0°-60°	920.1	61.4
0°-90°	1330.6	88.9
90°-120°	141.3	9.4
90°-150°	166.9	11.1
90°-180°	167.0	11.2
0°-180°	1497.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	392	392	392	392	392	
5°	394	392	388	392	391	37
15°	375	377	377	382	381	106
25°	341	345	350	357	359	157
35°	294	304	315	327	331	184
45°	241	256	276	294	300	186
55°	185	205	235	255	263	165
65°	126	154	188	211	218	125
75°	70	102	138	163	170	74
85°	20	56	92	116	124	22
90°	6	39	75	98	105	4
95°	5	31	65	87	94	4
105°	3	19	49	69	75	3
115°	2	8	34	51	57	2
125°	1	1	19	35	40	1
135°	1	1	6	18	23	1
145°	0	0	0	3	6	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°	392.5	392.5	392.5	392.5	392.5
2.5°	395.3	393.6	389.6	392.5	391.3
5°	393.6	391.9	388.5	391.9	391.3
7.5°	390.8	389.6	386.8	390.8	390.2
10°	387.4	386.2	384.5	389.1	388.5
12.5°	381.7	382.2	381.1	385.7	385.1
15°	375.4	376.6	376.6	381.7	381.1
17.5°	367.4	369.7	371.4	376.6	376.6
20°	359.5	362.3	364.6	370.9	370.9
22.5°	351.0	354.4	357.8	364.0	365.2
25°	341.3	345.3	350.4	357.2	358.9
27.5°	329.9	336.2	341.9	350.4	351.5
30°	318.5	325.9	333.3	342.4	344.1
32.5°	306.0	314.6	323.7	334.5	337.9
35°	294.1	303.7	314.6	327.1	331.0
37.5°	281.0	291.8	305.4	319.1	323.1
40°	267.9	280.4	295.8	310.6	315.7
42.5°	255.4	267.9	286.1	302.6	307.7
45°	241.2	256.5	276.4	294.1	299.8
47.5°	227.5	244.0	266.8	285.0	291.2
50°	213.3	230.9	256.5	275.9	282.1
52.5°	199.7	218.4	245.7	265.6	272.5
55°	184.9	205.3	234.9	255.4	262.8
57.5°	170.6	193.4	223.0	245.2	252.6
60°	155.3	179.7	212.2	233.8	241.7
62.5°	141.6	167.2	199.7	223.0	230.4
65°	126.3	154.1	187.7	211.0	218.4
67.5°	112.6	141.6	175.8	199.1	207.0
70°	97.8	127.4	162.7	187.1	194.0
72.5°	84.2	114.9	150.7	174.6	183.2
75°	70.0	101.8	138.2	162.7	170.1
77.5°	56.3	89.3	126.3	150.7	158.7
80°	42.7	77.4	114.3	138.2	146.2
82.5°	31.3	65.4	103.0	126.8	134.2
85°	20.5	55.7	92.1	116.0	124.0
87.5°	12.5	46.6	83.0	106.4	113.8
90°	5.7	38.7	75.1	97.8	104.7
92.5°	5.1	35.3	70.0	92.1	99.0
95°	4.6	31.3	65.4	87.0	93.9
97.5°	4.0	28.4	61.4	82.5	89.3
100°	4.0	25.0	56.9	77.9	84.2
102.5°	3.4	22.2	52.9	73.4	79.6
105°	2.8	19.3	48.9	68.8	75.1
107.5°	2.8	16.5	44.9	64.3	70.5
110°	2.3	13.7	41.5	59.7	66.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	11.4	37.5	55.7	62.0
115°	2.3	8.5	34.1	51.2	57.4
117.5°	1.7	6.3	30.1	47.2	52.9
120°	1.7	4.0	26.7	42.7	48.9
122.5°	1.7	2.3	23.3	38.7	43.8
125°	1.1	1.1	19.3	34.7	39.8
127.5°	1.1	0.6	15.9	30.1	35.3
130°	1.1	0.6	12.5	26.2	30.7
132.5°	1.1	0.6	9.1	22.2	26.7
135°	0.6	0.6	6.3	18.2	22.8
137.5°	0.6	0.6	3.4	14.2	18.2
140°	0.6	0.0	1.1	10.2	13.7
142.5°	0.6	0.0	0.0	6.8	9.7
145°	0.0	0.0	0.0	3.4	6.3
147.5°	0.0	0.0	0.0	0.6	2.3
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

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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	15.21	16.69	15.74	17.22	17.80	18.27	19.75	18.80	20.28	20.86
	3H	16.71	18.06	17.25	18.60	19.22	20.90	22.25	21.44	22.79	23.41
	4H	17.21	18.50	17.77	19.05	19.68	22.18	23.47	22.74	24.02	24.65
	6H	17.52	18.72	18.10	19.29	19.93	23.51	24.71	24.08	25.27	25.92
	8H	17.60	18.75	18.18	19.34	19.99	24.19	25.34	24.77	25.93	26.58
	12H	17.64	18.74	18.23	19.32	20.00	24.95	26.05	25.54	26.63	27.31
4H	2H	16.32	17.61	16.88	18.16	18.79	18.66	19.95	19.22	20.50	21.13
	3H	18.08	19.18	18.65	19.77	20.42	21.50	22.60	22.07	23.20	23.85
	4H	18.72	19.73	19.31	20.33	21.02	22.94	23.96	23.54	24.56	25.24
	6H	19.17	20.07	19.78	20.69	21.39	24.45	25.35	25.06	25.97	26.67
	8H	19.30	20.14	19.91	20.77	21.47	25.23	26.07	25.84	26.70	27.40
	12H	19.37	20.14	20.01	20.79	21.50	26.10	26.87	26.73	27.52	28.23
8H	4H	19.56	20.41	20.18	21.03	21.74	23.14	23.98	23.75	24.61	25.31
	6H	20.22	20.94	20.87	21.61	22.32	24.80	25.52	25.45	26.18	26.89
	8H	20.46	21.10	21.11	21.78	22.50	25.70	26.35	26.36	27.03	27.75
	12H	20.62	21.20	21.28	21.86	22.65	26.74	27.32	27.40	27.98	28.77
12H	4H	19.79	20.56	20.43	21.21	21.92	23.14	23.91	23.78	24.56	25.28
	6H	20.57	21.22	21.23	21.89	22.61	24.83	25.48	25.49	26.16	26.88
	8H	20.90	21.48	21.56	22.15	22.93	25.80	26.38	26.46	27.04	27.83