

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: P242339

Luminaire Tested: S122DRP-S485D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242339  
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-S485D930-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

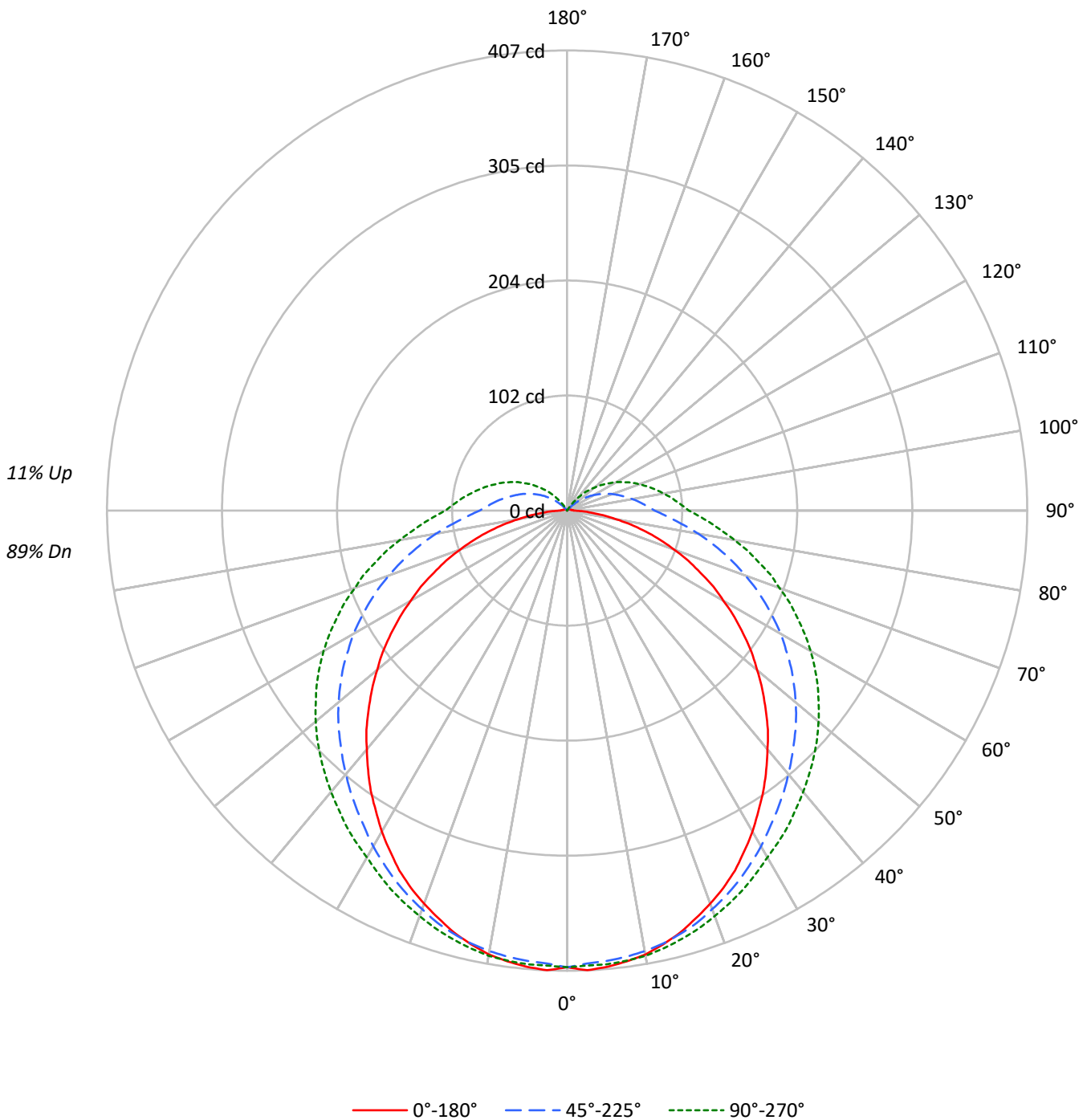
Lumens per Lamp: N/A  
Luminaire Lumens: 1541.2 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

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°	7693	7693	7693
5°	7731	7374	7335
10°	7682	7127	7025
15°	7576	6870	6707
20°	7442	6598	6405
25°	7308	6339	6130
30°	7121	6074	5858
35°	6934	5819	5658
40°	6734	5599	5461
45°	6545	5400	5288
50°	6342	5217	5119
55°	6131	5023	4946
60°	5869	4820	4764
65°	5601	4585	4553
70°	5295	4332	4325
75°	4905	4083	4111
80°	4292	3822	3890
85°	3702	3577	3703

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6545 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.3	2.5
10°-20°	109.8	7.1
20°-30°	166.4	10.8
30°-40°	202.6	13.1
40°-50°	218.0	14.1
50°-60°	211.7	13.7
60°-70°	184.9	12.0
70°-80°	142.3	9.2
80°-90°	95.3	6.2
90°-100°	65.8	4.3
100°-110°	48.0	3.1
110°-120°	31.7	2.1
120°-130°	17.7	1.1
130°-140°	7.4	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°	314.5	20.4
0°-40°	517.1	33.6
0°-60°	946.9	61.4
0°-90°	1369.4	88.9
90°-120°	145.5	9.4
90°-150°	171.8	11.1
90°-180°	172.0	11.2
0°-180°	1541.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	404	404	404	404	404	
5°	405	403	400	403	403	38
15°	386	388	388	393	392	109
25°	351	355	361	368	369	162
35°	303	313	324	337	341	189
45°	248	264	284	303	308	192
55°	190	211	242	263	270	170
65°	130	159	193	217	225	129
75°	72	105	142	167	175	76
85°	21	57	95	119	128	22
90°	6	40	77	101	108	4
95°	5	32	67	90	97	4
105°	3	20	50	71	77	3
115°	2	9	35	53	59	2
125°	1	1	20	36	41	1
135°	1	1	6	19	23	1
145°	0	0	0	4	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°	403.9	403.9	403.9	403.9	403.9
2.5°	406.9	405.1	401.0	403.9	402.8
5°	405.1	403.3	399.8	403.3	402.8
7.5°	402.2	401.0	398.1	402.2	401.6
10°	398.7	397.5	395.7	400.4	399.8
12.5°	392.8	393.4	392.2	396.9	396.3
15°	386.4	387.5	387.5	392.8	392.2
17.5°	378.2	380.5	382.3	387.5	387.5
20°	370.0	372.9	375.2	381.7	381.7
22.5°	361.2	364.7	368.2	374.7	375.8
25°	351.2	355.3	360.6	367.6	369.4
27.5°	339.5	346.0	351.8	360.6	361.8
30°	327.8	335.4	343.0	352.4	354.2
32.5°	314.9	323.7	333.1	344.2	347.7
35°	302.7	312.6	323.7	336.6	340.7
37.5°	289.2	300.3	314.4	328.4	332.5
40°	275.7	288.6	304.4	319.6	324.9
42.5°	262.8	275.7	294.5	311.4	316.7
45°	248.2	264.0	284.5	302.7	308.5
47.5°	234.2	251.1	274.6	293.3	299.7
50°	219.5	237.7	264.0	283.9	290.4
52.5°	205.5	224.8	252.9	273.4	280.4
55°	190.3	211.3	241.8	262.8	270.5
57.5°	175.6	199.0	229.5	252.3	259.9
60°	159.8	185.0	218.4	240.6	248.8
62.5°	145.8	172.1	205.5	229.5	237.1
65°	130.0	158.6	193.2	217.2	224.8
67.5°	115.9	145.8	180.9	204.9	213.1
70°	100.7	131.1	167.4	192.6	199.6
72.5°	86.6	118.3	155.1	179.7	188.5
75°	72.0	104.8	142.3	167.4	175.0
77.5°	58.0	91.9	130.0	155.1	163.3
80°	43.9	79.6	117.7	142.3	150.4
82.5°	32.2	67.3	106.0	130.5	138.2
85°	21.1	57.4	94.8	119.4	127.6
87.5°	12.9	48.0	85.5	109.5	117.1
90°	5.9	39.8	77.3	100.7	107.7
92.5°	5.3	36.3	72.0	94.8	101.9
95°	4.7	32.2	67.3	89.6	96.6
97.5°	4.1	29.3	63.2	84.9	91.9
100°	4.1	25.8	58.5	80.2	86.6
102.5°	3.5	22.8	54.4	75.5	82.0
105°	2.9	19.9	50.3	70.8	77.3
107.5°	2.9	17.0	46.2	66.2	72.6
110°	2.3	14.0	42.7	61.5	67.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	11.7	38.6	57.4	63.8
115°	2.3	8.8	35.1	52.7	59.1
117.5°	1.8	6.4	31.0	48.6	54.4
120°	1.8	4.1	27.5	43.9	50.3
122.5°	1.8	2.3	24.0	39.8	45.1
125°	1.2	1.2	19.9	35.7	41.0
127.5°	1.2	0.6	16.4	31.0	36.3
130°	1.2	0.6	12.9	26.9	31.6
132.5°	1.2	0.6	9.4	22.8	27.5
135°	0.6	0.6	6.4	18.7	23.4
137.5°	0.6	0.6	3.5	14.6	18.7
140°	0.6	0.0	1.2	10.5	14.0
142.5°	0.6	0.0	0.0	7.0	10.0
145°	0.0	0.0	0.0	3.5	6.4
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	15.31	16.79	15.83	17.32	17.90	18.37	19.85	18.90	20.38	20.96
	3H	16.81	18.16	17.35	18.70	19.32	21.00	22.35	21.54	22.89	23.51
	4H	17.31	18.60	17.87	19.15	19.78	22.28	23.56	22.84	24.12	24.75
	6H	17.62	18.82	18.20	19.39	20.03	23.61	24.81	24.18	25.37	26.02
	8H	17.70	18.85	18.28	19.44	20.09	24.29	25.44	24.87	26.03	26.68
	12H	17.74	18.84	18.33	19.42	20.10	25.04	26.15	25.63	26.73	27.41
4H	2H	16.42	17.70	16.98	18.26	18.89	18.76	20.05	19.32	20.60	21.23
	3H	18.18	19.28	18.75	19.87	20.52	21.60	22.70	22.17	23.30	23.95
	4H	18.82	19.83	19.41	20.43	21.12	23.04	24.05	23.63	24.66	25.34
	6H	19.27	20.17	19.88	20.79	21.49	24.55	25.45	25.16	26.07	26.76
	8H	19.40	20.24	20.01	20.87	21.57	25.33	26.17	25.94	26.80	27.50
	12H	19.47	20.24	20.11	20.89	21.60	26.20	26.97	26.83	27.62	28.33
8H	4H	19.66	20.51	20.28	21.13	21.84	23.24	24.08	23.85	24.71	25.41
	6H	20.32	21.04	20.97	21.71	22.42	24.90	25.62	25.55	26.28	26.99
	8H	20.56	21.20	21.21	21.88	22.60	25.80	26.45	26.46	27.13	27.85
	12H	20.72	21.30	21.38	21.96	22.75	26.84	27.42	27.50	28.08	28.87
12H	4H	19.89	20.66	20.53	21.31	22.02	23.24	24.01	23.88	24.66	25.37
	6H	20.67	21.32	21.33	21.99	22.71	24.93	25.58	25.59	26.26	26.98
	8H	21.00	21.58	21.66	22.25	23.03	25.90	26.48	26.56	27.14	27.93