

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: P242270

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242270  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S485D930-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

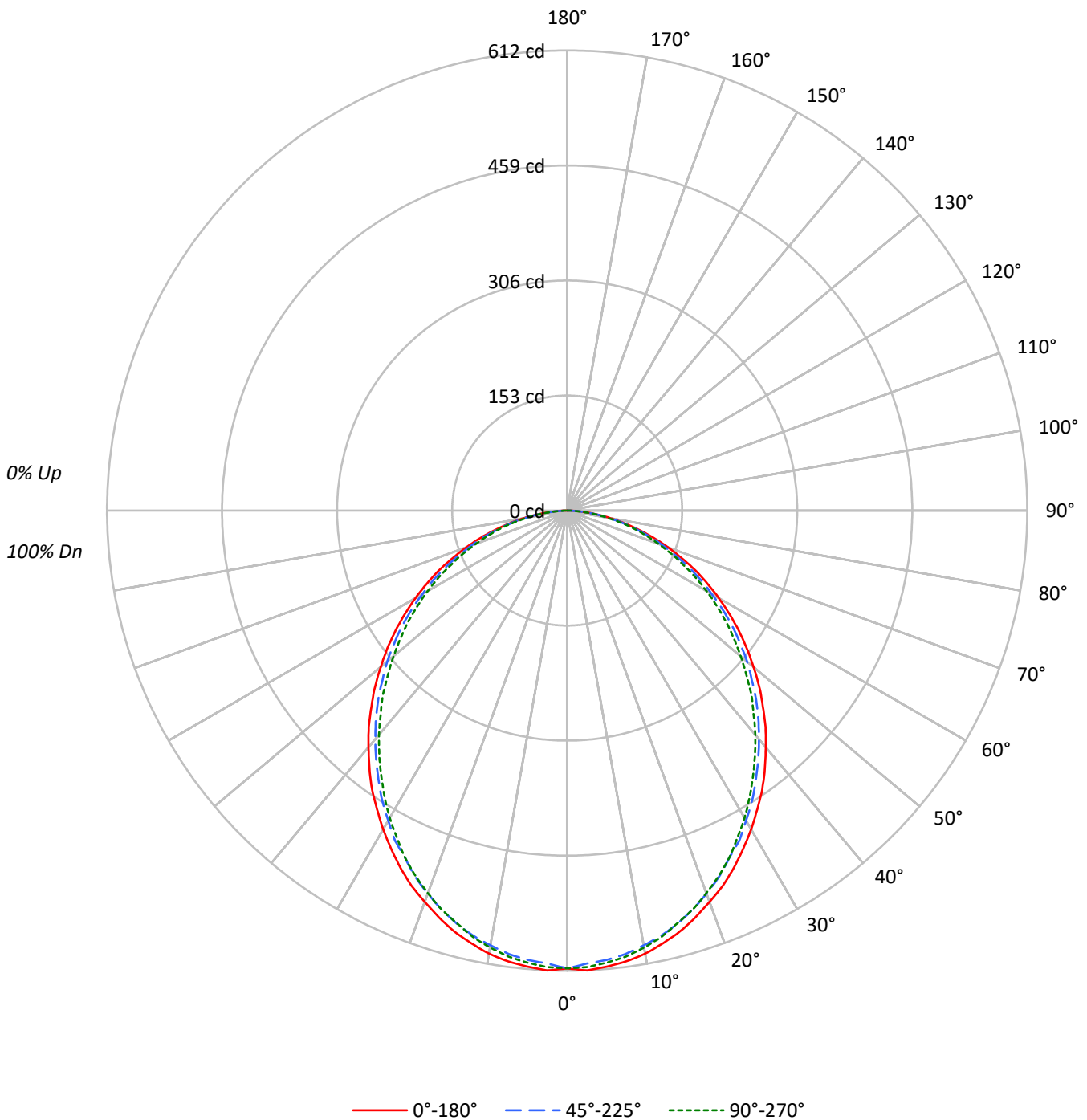
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1549.0 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.8  
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: P242270

CATALOG NUMBER: S122DRP-S485D930-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84																												
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71																												
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60																												
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51																												
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45																												
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39																												
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35																												
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31																												
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28																												
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26																												

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

	0°	45°	90°
0°	11596	11596	11596
5°	11641	11472	11541
10°	11572	11357	11413
15°	11430	11209	11197
20°	11226	10988	10976
25°	11023	10716	10716
30°	10764	10467	10377
35°	10522	10169	10020
40°	10220	9869	9680
45°	9918	9571	9337
50°	9592	9263	8934
55°	9255	8903	8574
60°	8876	8476	8164
65°	8469	8045	7680
70°	7953	7530	7173
75°	7234	6940	6763
80°	6417	6230	5912
85°	5245	4983	4480

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9918 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.3	3.7
10°-20°	161.2	10.4
20°-30°	236.9	15.3
30°-40°	275.2	17.8
40°-50°	274.8	17.7
50°-60°	239.6	15.5
60°-70°	177.1	11.4
70°-80°	100.2	6.5
80°-90°	26.4	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	455.5	29.4
0°-40°	730.6	47.2
0°-60°	1245.1	80.4
0°-90°	1549.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1549.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	609	609	609	609	609	
5°	609	606	600	605	604	58
15°	580	576	568	571	568	163
25°	524	520	510	511	510	241
35°	452	447	437	434	431	283
45°	368	364	355	349	347	284
55°	279	275	268	261	258	249
65°	188	184	178	173	170	186
75°	98	97	94	91	92	105
85°	24	23	23	21	20	28
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	608.8	608.8	608.8	608.8	608.8
2.5°	612.3	609.4	603.0	608.8	607.7
5°	608.8	606.5	600.0	604.7	603.6
7.5°	604.7	601.2	594.8	599.5	598.3
10°	598.3	594.2	587.2	591.8	590.1
12.5°	589.5	586.0	579.0	581.9	580.7
15°	579.6	576.0	568.4	570.8	567.8
17.5°	567.3	563.7	556.1	559.1	556.1
20°	553.8	550.3	542.1	543.8	541.5
22.5°	540.3	535.1	527.5	527.5	526.3
25°	524.5	519.8	509.9	511.1	509.9
27.5°	507.0	502.9	495.3	493.5	490.6
30°	489.4	484.7	475.9	474.2	471.8
32.5°	470.7	467.2	457.8	454.3	451.9
35°	452.5	446.7	437.3	433.8	430.9
37.5°	432.0	426.8	417.4	413.3	410.4
40°	411.0	406.3	396.9	391.6	389.3
42.5°	390.5	385.8	376.4	370.6	367.1
45°	368.2	364.1	355.3	348.9	346.6
47.5°	346.6	342.5	333.1	326.7	323.1
50°	323.7	320.8	312.6	304.4	301.5
52.5°	301.5	297.4	289.8	283.3	279.2
55°	278.7	275.1	268.1	261.1	258.2
57.5°	255.8	252.9	245.3	238.3	235.9
60°	233.0	230.7	222.5	216.0	214.3
62.5°	210.7	206.6	200.8	194.9	192.6
65°	187.9	184.4	178.5	173.3	170.4
67.5°	164.5	161.6	156.3	152.2	149.9
70°	142.8	140.5	135.2	131.1	128.8
72.5°	120.6	118.3	115.3	111.2	109.5
75°	98.3	97.2	94.3	90.7	91.9
77.5°	78.4	76.1	74.9	73.2	71.4
80°	58.5	58.0	56.8	55.0	53.9
82.5°	39.8	39.8	39.2	36.9	36.9
85°	24.0	23.4	22.8	21.1	20.5
87.5°	10.5	9.4	8.2	6.4	5.9
90°	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	19.80	21.41	20.16	21.72	22.04	19.35	20.96	19.72	21.28	21.59
	3H	21.55	23.00	21.92	23.33	23.69	21.06	22.51	21.43	22.84	23.20
	4H	22.19	23.56	22.59	23.91	24.29	21.70	23.07	22.10	23.42	23.79
	6H	22.66	23.93	23.07	24.30	24.69	22.16	23.43	22.57	23.79	24.19
	8H	22.80	24.02	23.23	24.40	24.80	22.30	23.51	22.73	23.90	24.30
	12H	22.90	24.06	23.32	24.44	24.87	22.38	23.54	22.81	23.93	24.35
4H	2H	20.36	21.73	20.76	22.07	22.45	20.01	21.37	20.40	21.72	22.10
	3H	22.33	23.48	22.74	23.88	24.28	21.93	23.07	22.34	23.47	23.87
	4H	23.11	24.14	23.54	24.56	24.99	22.68	23.72	23.12	24.13	24.57
	6H	23.71	24.61	24.16	25.05	25.51	23.27	24.18	23.73	24.62	25.07
	8H	23.89	24.74	24.36	25.18	25.65	23.46	24.30	23.92	24.75	25.21
	12H	24.03	24.79	24.51	25.26	25.73	23.57	24.33	24.06	24.81	25.28
8H	4H	23.38	24.23	23.84	24.67	25.14	23.01	23.85	23.47	24.30	24.76
	6H	24.10	24.80	24.59	25.29	25.76	23.72	24.42	24.21	24.91	25.38
	8H	24.36	24.99	24.87	25.49	25.98	23.96	24.60	24.47	25.10	25.59
	12H	24.56	25.11	25.06	25.60	26.17	24.14	24.70	24.65	25.19	25.75
12H	4H	23.41	24.17	23.89	24.64	25.11	23.04	23.80	23.52	24.28	24.75
	6H	24.14	24.77	24.65	25.28	25.77	23.77	24.41	24.28	24.91	25.40
	8H	24.46	25.01	24.96	25.50	26.07	24.08	24.64	24.59	25.13	25.69