

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055706

Luminaire Tested: S123R3DR-H1000D940-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055706  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D940-X4F0-XX-UDD-FLL-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

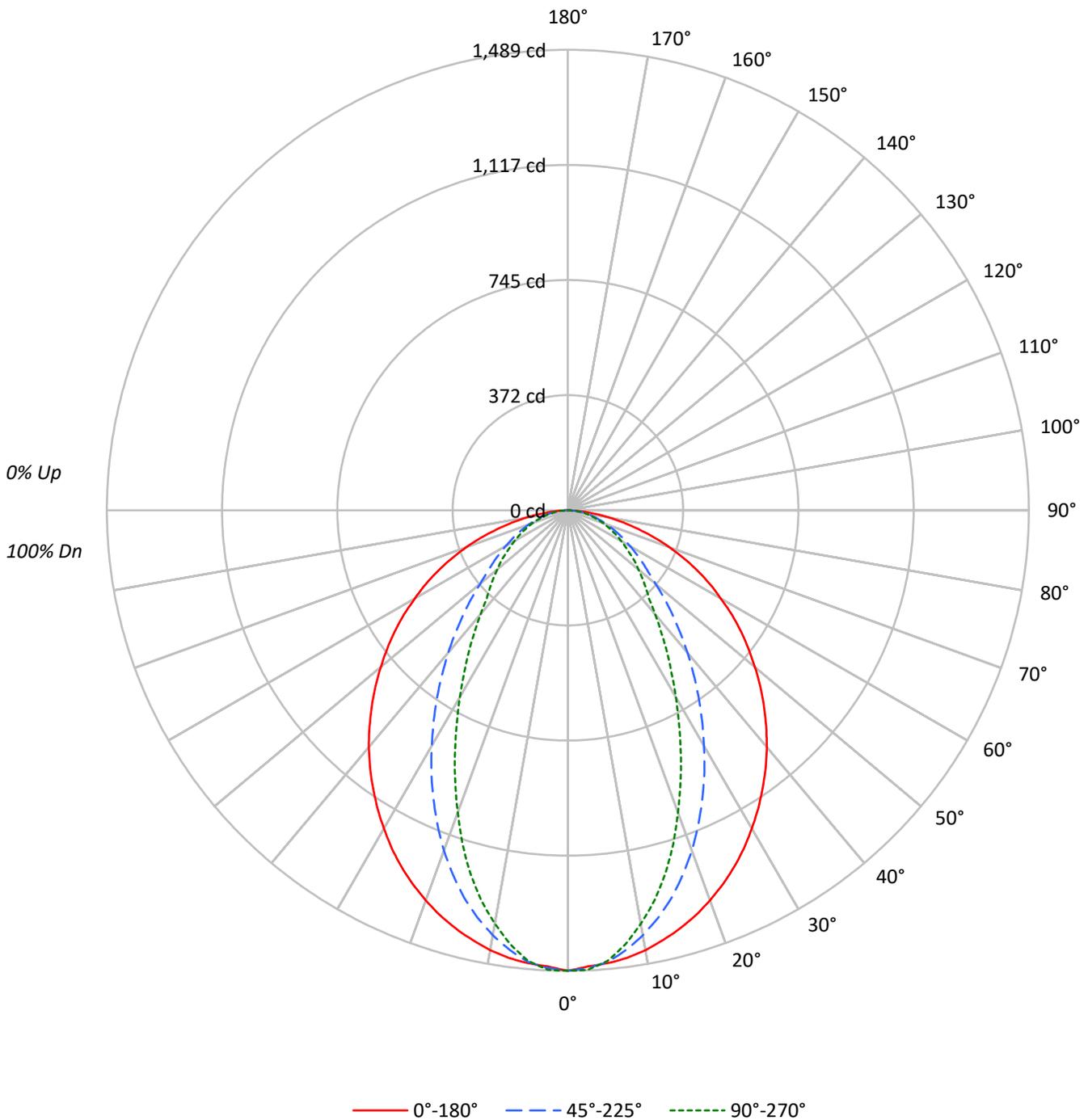
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2611.3 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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	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					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

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

	0°	45°	90°
0°	17951	17951	17951
5°	17791	17749	17710
10°	17682	17083	16619
15°	17472	16179	15179
20°	17217	15016	13345
25°	16917	13674	11480
30°	16542	12231	9705
35°	16144	10818	8195
40°	15739	9446	6887
45°	15265	8145	6077
50°	14788	6934	5576
55°	14348	6180	5150
60°	13749	5585	4806
65°	13183	5115	4510
70°	12288	4709	4241
75°	10998	4355	3992
80°	9436	4020	3715
85°	6626	3693	3541

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15265 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.0	5.3
10°-20°	365.2	14.0
20°-30°	481.0	18.4
30°-40°	488.2	18.7
40°-50°	424.4	16.3
50°-60°	332.5	12.7
60°-70°	225.9	8.7
70°-80°	122.4	4.7
80°-90°	33.7	1.3
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°	984.2	37.7
0°-40°	1472.4	56.4
0°-60°	2229.3	85.4
0°-90°	2611.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2611.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1489	1489	1489	1489	1489	
5°	1470	1488	1467	1453	1463	140
15°	1400	1380	1296	1233	1216	395
25°	1272	1195	1028	900	863	585
35°	1097	967	735	595	557	686
45°	895	718	478	369	356	691
55°	683	474	294	251	245	609
65°	462	256	179	160	158	456
75°	236	118	94	87	86	252
85°	48	29	27	24	26	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1488.9	1488.9	1488.9	1488.9	1488.9
2.5°	1476.6	1495.6	1481.1	1482.2	1486.7
5°	1470.0	1487.8	1466.6	1453.3	1463.3
7.5°	1459.9	1473.3	1434.3	1413.2	1416.5
10°	1444.3	1448.8	1395.4	1361.9	1357.5
12.5°	1423.2	1415.4	1348.6	1299.6	1291.8
15°	1399.8	1379.8	1296.2	1232.8	1216.1
17.5°	1373.1	1339.7	1235.0	1157.0	1131.4
20°	1341.9	1295.1	1170.4	1071.3	1040.1
22.5°	1308.5	1248.4	1100.2	983.3	951.0
25°	1271.7	1194.9	1027.9	899.8	863.0
27.5°	1231.7	1141.4	954.4	817.4	776.2
30°	1188.2	1085.8	878.6	737.2	697.1
32.5°	1143.7	1026.7	806.3	662.6	623.6
35°	1096.9	966.6	735.0	594.7	556.8
37.5°	1049.0	905.4	665.9	530.1	494.4
40°	1000.0	843.0	600.2	469.9	437.6
42.5°	947.7	780.6	536.8	413.1	388.6
45°	895.3	718.3	477.7	368.6	356.4
47.5°	843.0	654.8	422.1	337.4	326.3
50°	788.4	593.6	369.7	308.5	297.3
52.5°	735.0	533.4	326.3	280.6	272.8
55°	682.6	474.4	294.0	250.6	245.0
57.5°	628.1	416.5	261.7	227.2	220.5
60°	570.2	360.8	231.6	202.7	199.3
62.5°	517.8	308.5	204.9	181.5	178.2
65°	462.1	256.1	179.3	160.4	158.1
67.5°	405.4	212.7	155.9	140.3	139.2
70°	348.6	179.3	133.6	121.4	120.3
72.5°	292.9	148.1	112.5	104.7	102.5
75°	236.1	118.0	93.5	86.9	85.7
77.5°	184.9	91.3	74.6	70.2	69.0
80°	135.9	67.9	57.9	54.6	53.5
82.5°	89.1	46.8	41.2	39.0	39.0
85°	47.9	29.0	26.7	24.5	25.6
87.5°	16.7	12.2	12.2	11.1	12.2
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	20.59	22.08	20.96	22.40	22.71	15.74	17.23	16.11	17.55	17.86
	3H	22.48	23.82	22.86	24.14	24.51	17.37	18.71	17.75	19.03	19.40
	4H	23.23	24.49	23.63	24.84	25.22	18.00	19.26	18.40	19.61	19.99
	6H	23.80	24.96	24.21	25.33	25.72	18.49	19.65	18.91	20.02	20.41
	8H	23.97	25.08	24.40	25.47	25.87	18.66	19.77	19.09	20.16	20.56
	12H	24.07	25.13	24.50	25.51	25.94	18.79	19.85	19.22	20.23	20.66
4H	2H	20.64	21.89	21.04	22.24	22.62	16.47	17.72	16.87	18.07	18.45
	3H	22.65	23.70	23.07	24.10	24.50	18.29	19.33	18.70	19.73	20.13
	4H	23.47	24.41	23.90	24.83	25.27	19.04	19.98	19.47	20.39	20.83
	6H	24.15	24.97	24.61	25.41	25.88	19.65	20.46	20.10	20.91	21.37
	8H	24.38	25.15	24.85	25.59	26.06	19.86	20.62	20.32	21.07	21.54
	12H	24.54	25.22	25.02	25.70	26.17	20.03	20.71	20.51	21.19	21.66
8H	4H	23.50	24.26	23.96	24.70	25.17	19.42	20.18	19.88	20.63	21.09
	6H	24.22	24.86	24.72	25.35	25.83	20.15	20.78	20.65	21.27	21.75
	8H	24.49	25.06	25.01	25.57	26.06	20.44	21.00	20.95	21.51	22.00
	12H	24.70	25.20	25.21	25.70	26.26	20.68	21.18	21.19	21.67	22.24
12H	4H	23.48	24.16	23.96	24.64	25.11	19.47	20.16	19.96	20.63	21.11
	6H	24.21	24.78	24.72	25.29	25.77	20.23	20.80	20.74	21.31	21.80
	8H	24.51	25.01	25.02	25.51	26.07	20.58	21.08	21.09	21.57	22.14