

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: P1055691

Luminaire Tested: S123R3DR-H1000D840-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055691  
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-H1000D840-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, 80 CRI LEDS  
Ballast/Driver: -

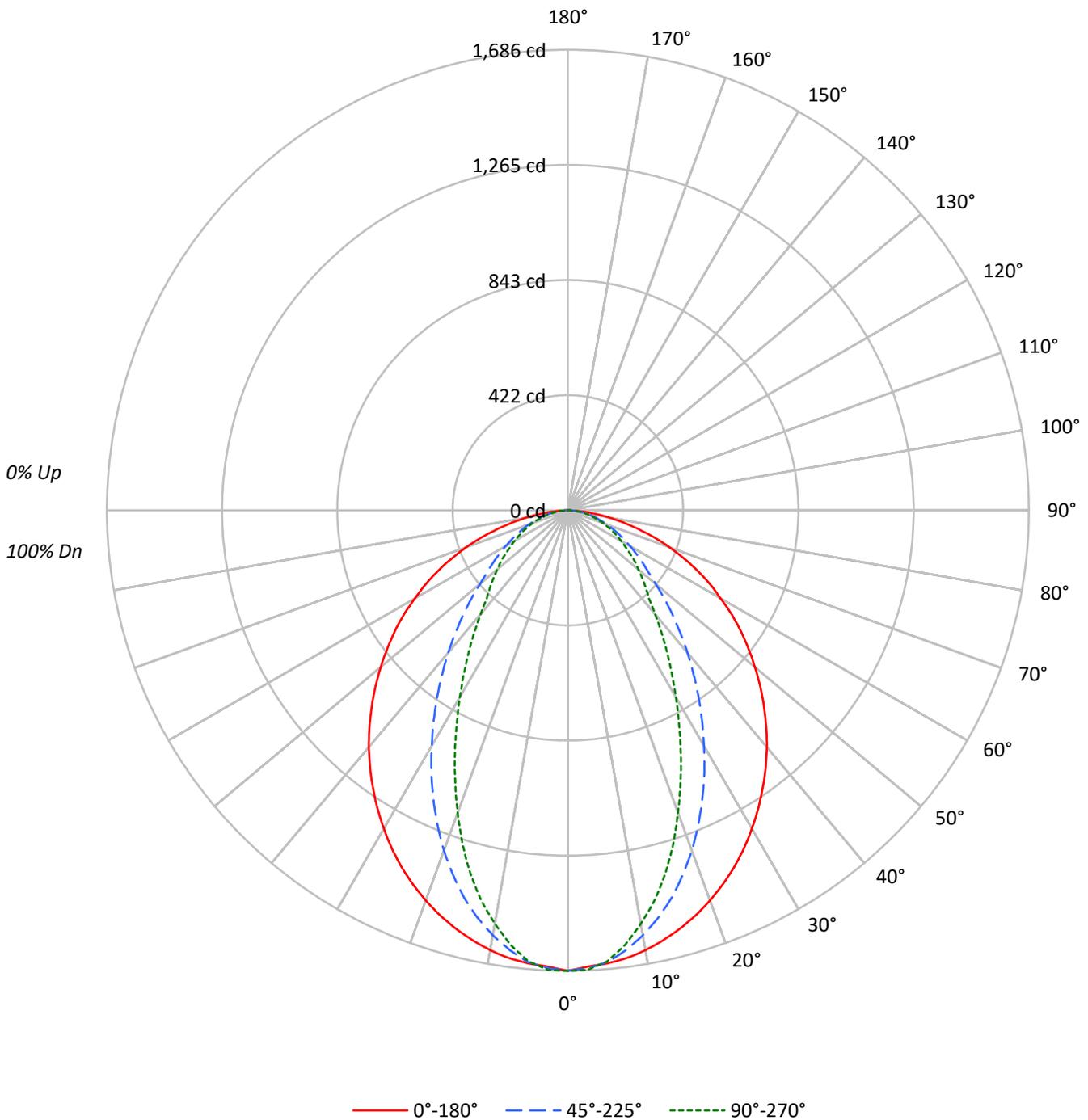
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2957.3 lumens  
Efficiency: N/A  
Efficacy: 95.7 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				
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76					74				
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67					65				
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59					57				
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52					50				
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47					45				
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42					40				
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39					37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35					34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33					31				

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

	0°	45°	90°
0°	20330	20330	20330
5°	20147	20102	20056
10°	20025	19345	18821
15°	19787	18323	17190
20°	19498	17006	15113
25°	19160	15486	13002
30°	18734	13853	10991
35°	18283	12251	9281
40°	17824	10699	7800
45°	17289	9224	6882
50°	16748	7853	6315
55°	16250	6997	5833
60°	15570	6325	5442
65°	14931	5791	5109
70°	13913	5333	4801
75°	12456	4933	4523
80°	10685	4555	4201
85°	7498	4191	4012

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17289 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.3	5.3
10°-20°	413.5	14.0
20°-30°	544.8	18.4
30°-40°	552.9	18.7
40°-50°	480.6	16.3
50°-60°	376.6	12.7
60°-70°	255.8	8.7
70°-80°	138.6	4.7
80°-90°	38.2	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°	1114.6	37.7
0°-40°	1667.5	56.4
0°-60°	2524.6	85.4
0°-90°	2957.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2957.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1686	1686	1686	1686	1686	
5°	1665	1685	1661	1646	1657	158
15°	1585	1563	1468	1396	1377	447
25°	1440	1353	1164	1019	977	663
35°	1242	1095	832	674	631	777
45°	1014	814	541	417	404	783
55°	773	537	333	284	278	690
65°	523	290	203	182	179	517
75°	267	134	106	98	97	285
85°	54	33	30	28	29	68
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1686.2	1686.2	1686.2	1686.2	1686.2
2.5°	1672.3	1693.7	1677.3	1678.6	1683.7
5°	1664.7	1684.9	1661.0	1645.8	1657.2
7.5°	1653.4	1668.5	1624.4	1600.4	1604.2
10°	1635.7	1640.8	1580.2	1542.4	1537.4
12.5°	1611.8	1602.9	1527.3	1471.8	1463.0
15°	1585.3	1562.6	1468.0	1396.1	1377.2
17.5°	1555.0	1517.2	1398.6	1310.4	1281.3
20°	1519.7	1466.7	1325.5	1213.2	1177.9
22.5°	1481.9	1413.8	1246.0	1113.6	1077.0
25°	1440.3	1353.2	1164.1	1019.0	977.4
27.5°	1394.8	1292.7	1080.8	925.7	879.0
30°	1345.7	1229.6	995.1	834.9	789.5
32.5°	1295.2	1162.8	913.1	750.4	706.3
35°	1242.2	1094.7	832.4	673.5	630.6
37.5°	1188.0	1025.3	754.2	600.3	560.0
40°	1132.5	954.7	679.8	532.2	495.6
42.5°	1073.3	884.1	607.9	467.9	440.1
45°	1014.0	813.5	541.0	417.4	403.6
47.5°	954.7	741.6	478.0	382.1	369.5
50°	892.9	672.2	418.7	349.3	336.7
52.5°	832.4	604.1	369.5	317.8	309.0
55°	773.1	537.3	332.9	283.8	277.5
57.5°	711.3	471.7	296.4	257.3	249.7
60°	645.7	408.6	262.3	229.5	225.7
62.5°	586.4	349.3	232.1	205.6	201.8
65°	523.4	290.1	203.0	181.6	179.1
67.5°	459.1	240.9	176.6	158.9	157.6
70°	394.7	203.0	151.3	137.5	136.2
72.5°	331.7	167.7	127.4	118.5	116.0
75°	267.4	133.7	105.9	98.4	97.1
77.5°	209.4	103.4	84.5	79.5	78.2
80°	153.9	76.9	65.6	61.8	60.5
82.5°	100.9	53.0	46.7	44.1	44.1
85°	54.2	32.8	30.3	27.7	29.0
87.5°	18.9	13.9	13.9	12.6	13.9
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	21.02	22.52	21.39	22.83	23.14	16.17	17.66	16.54	17.98	18.29
	3H	22.91	24.25	23.29	24.58	24.94	17.80	19.14	18.18	19.47	19.83
	4H	23.67	24.92	24.07	25.27	25.65	18.44	19.69	18.84	20.04	20.42
	6H	24.23	25.39	24.64	25.76	26.15	18.93	20.09	19.34	20.45	20.85
	8H	24.40	25.51	24.83	25.90	26.30	19.10	20.20	19.52	20.59	20.99
	12H	24.50	25.56	24.93	25.94	26.37	19.22	20.28	19.65	20.66	21.09
4H	2H	21.07	22.33	21.47	22.67	23.05	16.90	18.16	17.30	18.50	18.88
	3H	23.09	24.13	23.50	24.53	24.93	18.72	19.76	19.13	20.16	20.57
	4H	23.90	24.84	24.34	25.26	25.70	19.47	20.41	19.90	20.82	21.26
	6H	24.59	25.40	25.04	25.85	26.31	20.08	20.89	20.53	21.34	21.80
	8H	24.82	25.58	25.28	26.03	26.49	20.29	21.05	20.75	21.50	21.97
	12H	24.97	25.65	25.45	26.13	26.60	20.46	21.14	20.94	21.62	22.09
8H	4H	23.93	24.69	24.39	25.14	25.60	19.85	20.61	20.31	21.06	21.53
	6H	24.66	25.29	25.15	25.78	26.26	20.58	21.21	21.08	21.70	22.18
	8H	24.93	25.49	25.44	26.00	26.49	20.87	21.43	21.38	21.94	22.43
	12H	25.14	25.64	25.65	26.13	26.69	21.11	21.61	21.62	22.10	22.67
12H	4H	23.91	24.60	24.40	25.07	25.55	19.91	20.59	20.39	21.07	21.54
	6H	24.64	25.21	25.16	25.72	26.21	20.66	21.23	21.18	21.74	22.23
	8H	24.95	25.45	25.46	25.94	26.50	21.01	21.51	21.52	22.00	22.57