

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: P1055689

Luminaire Tested: S123R3DR-H1000D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055689  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1000D840-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

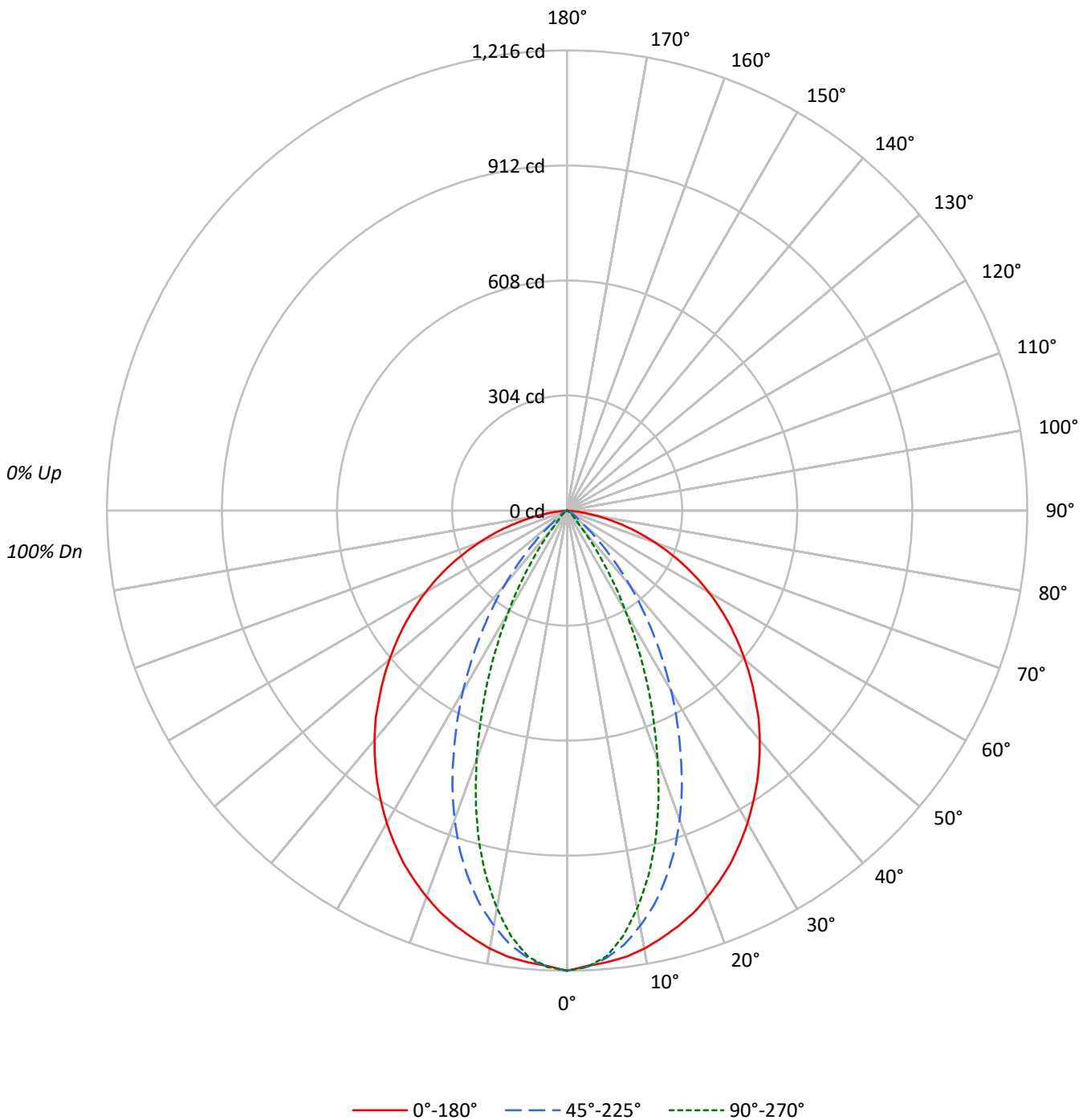
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1423.0 lumens  
Efficiency: N/A  
Efficacy: 46.1 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	14658	14658	14658
5°	14500	14363	14317
10°	14390	13633	13061
15°	14183	12562	11255
20°	13932	11148	8964
25°	13639	9445	6610
30°	13273	7655	4337
35°	12881	5828	2376
40°	12465	4029	814
45°	11978	2344	472
50°	11496	923	283
55°	11002	582	132
60°	10431	364	60
65°	9714	180	37
70°	8714	88	46
75°	7402	61	61
80°	5520	90	0
85°	2089	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11978 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.5	7.8
10°-20°	282.9	19.9
20°-30°	337.4	23.7
30°-40°	286.2	20.1
40°-50°	194.5	13.7
50°-60°	120.6	8.5
60°-70°	61.1	4.3
70°-80°	24.9	1.8
80°-90°	3.8	0.3
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°	731.8	51.4
0°-40°	1018.0	71.5
0°-60°	1333.1	93.7
0°-90°	1423.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1423.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1216	1216	1216	1216	1216	
5°	1198	1210	1187	1178	1183	114
15°	1136	1107	1006	927	902	320
25°	1025	930	710	549	497	472
35°	875	702	396	213	161	547
45°	702	460	138	34	28	543
55°	523	232	28	10	6	468
65°	340	57	6	1	1	336
75°	159	10	1	1	1	169
85°	15	0	0	1	0	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1215.8	1215.8	1215.8	1215.8	1215.8
2.5°	1204.4	1220.8	1206.9	1205.7	1206.9
5°	1198.1	1209.5	1186.8	1177.9	1183.0
7.5°	1189.3	1194.3	1156.5	1133.8	1133.8
10°	1175.4	1171.6	1113.6	1075.8	1066.9
12.5°	1156.5	1141.4	1065.7	1006.4	990.0
15°	1136.3	1107.3	1006.4	927.0	901.7
17.5°	1113.6	1069.5	942.1	838.7	802.1
20°	1085.9	1026.6	868.9	742.8	698.7
22.5°	1056.9	979.9	792.0	644.5	595.3
25°	1025.3	929.5	710.0	548.6	496.9
27.5°	990.0	876.5	629.3	456.5	399.8
30°	953.4	821.0	549.9	368.3	311.5
32.5°	914.3	763.0	470.4	287.5	234.6
35°	875.2	702.5	396.0	213.1	161.4
37.5°	833.6	641.9	324.1	147.6	102.2
40°	792.0	582.7	256.0	93.3	51.7
42.5°	749.1	520.9	194.2	46.7	35.3
45°	702.5	460.3	137.5	34.1	27.7
47.5°	658.3	402.3	90.8	27.7	21.4
50°	612.9	344.3	49.2	20.2	15.1
52.5°	567.5	288.8	35.3	15.1	10.1
55°	523.4	232.1	27.7	10.1	6.3
57.5°	478.0	182.9	21.4	6.3	3.8
60°	432.6	134.9	15.1	3.8	2.5
62.5°	387.2	93.3	10.1	2.5	1.3
65°	340.5	56.8	6.3	1.3	1.3
67.5°	292.6	39.1	3.8	1.3	1.3
70°	247.2	27.7	2.5	1.3	1.3
72.5°	201.8	17.7	1.3	1.3	0.0
75°	158.9	10.1	1.3	1.3	1.3
77.5°	117.3	3.8	1.3	1.3	0.0
80°	79.5	1.3	1.3	1.3	0.0
82.5°	44.1	0.0	1.3	1.3	0.0
85°	15.1	0.0	0.0	1.3	0.0
87.5°	0.0	0.0	0.0	1.3	0.0
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	18.38	19.66	18.74	19.97	20.29	0.00	0.00	0.00	0.00	0.00
	3H	20.32	21.46	20.70	21.79	22.15	0.00	0.00	0.00	0.00	0.00
	4H	21.15	22.20	21.55	22.56	22.94	0.00	0.00	0.00	0.00	0.00
	6H	21.70	22.67	22.12	23.04	23.44	0.00	0.00	0.00	0.00	0.00
	8H	21.83	22.75	22.26	23.14	23.54	0.00	0.00	0.00	0.00	0.00
	12H	21.85	22.73	22.29	23.11	23.54	0.00	0.00	0.00	0.00	0.00
4H	2H	18.14	19.20	18.54	19.55	19.93	0.00	0.00	0.00	0.00	0.00
	3H	20.09	20.96	20.51	21.36	21.76	0.00	0.00	0.00	0.00	0.00
	4H	20.91	21.68	21.34	22.10	22.54	0.00	0.00	0.00	0.00	0.00
	6H	21.51	22.17	21.97	22.62	23.09	0.00	0.00	0.00	0.00	0.00
	8H	21.66	22.28	22.13	22.73	23.20	0.00	0.00	0.00	0.00	0.00
	12H	21.71	22.25	22.19	22.73	23.21	0.00	0.00	0.00	0.00	0.00
8H	4H	20.76	21.38	21.23	21.83	22.30	0.00	0.00	0.00	0.00	0.00
	6H	21.35	21.85	21.85	22.35	22.83	0.00	0.00	0.00	0.00	0.00
	8H	21.50	21.95	22.02	22.46	22.96	0.00	0.00	0.00	0.00	0.00
	12H	21.55	21.95	22.07	22.44	23.02	0.00	0.00	0.00	0.00	0.00
12H	4H	20.72	21.26	21.20	21.74	22.22	0.00	0.00	0.00	0.00	0.00
	6H	21.28	21.73	21.81	22.25	22.74	0.00	0.00	0.00	0.00	0.00
	8H	21.45	21.85	21.97	22.34	22.91	0.00	0.00	0.00	0.00	0.00