

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: P1055812

Luminaire Tested: S123R3DR-H775D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055812  
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-H775D940-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, 90 CRI LEDS  
Ballast/Driver: -

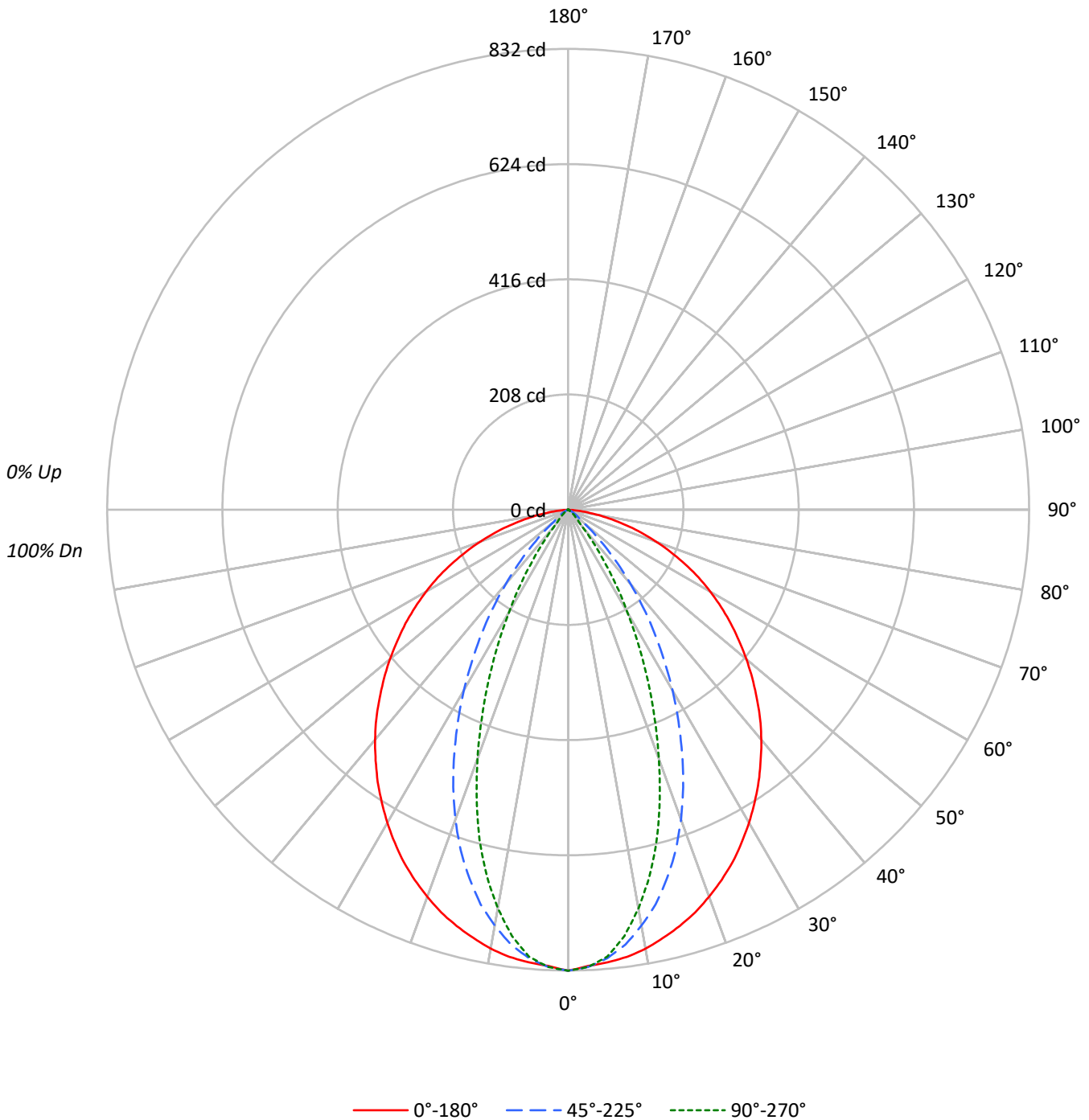
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 974.3 lumens  
Efficiency: N/A  
Efficacy: 40.9 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): 23.8  
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	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	60	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°	10036	10036	10036
5°	9928	9834	9803
10°	9853	9335	8943
15°	9711	8601	7706
20°	9539	7634	6138
25°	9339	6468	4526
30°	9088	5241	2969
35°	8821	3990	1626
40°	8535	2759	557
45°	8201	1604	324
50°	7872	632	195
55°	7533	399	90
60°	7142	251	41
65°	6650	123	26
70°	5964	60	32
75°	5068	42	42
80°	3777	62	0
85°	1439	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.3	7.8
10°-20°	193.7	19.9
20°-30°	231.0	23.7
30°-40°	196.0	20.1
40°-50°	133.2	13.7
50°-60°	82.6	8.5
60°-70°	41.8	4.3
70°-80°	17.1	1.8
80°-90°	2.6	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°	501.0	51.4
0°-40°	697.0	71.5
0°-60°	912.8	93.7
0°-90°	974.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	974.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	832	832	832	832	832	
5°	820	828	813	806	810	78
15°	778	758	689	635	617	219
25°	702	636	486	376	340	323
35°	599	481	271	146	110	375
45°	481	315	94	23	19	372
55°	358	159	19	7	4	320
65°	233	39	4	1	1	230
75°	109	7	1	1	1	116
85°	10	0	0	1	0	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	832.4	832.4	832.4	832.4	832.4
2.5°	824.6	835.9	826.4	825.5	826.4
5°	820.3	828.1	812.6	806.5	810.0
7.5°	814.3	817.7	791.8	776.3	776.3
10°	804.8	802.2	762.5	736.6	730.5
12.5°	791.8	781.5	729.7	689.1	677.9
15°	778.0	758.2	689.1	634.7	617.4
17.5°	762.5	732.3	645.0	574.2	549.2
20°	743.5	702.9	595.0	508.6	478.4
22.5°	723.6	670.9	542.3	441.3	407.6
25°	702.0	636.4	486.2	375.6	340.2
27.5°	677.9	600.1	430.9	312.6	273.7
30°	652.8	562.1	376.5	252.1	213.3
32.5°	626.0	522.4	322.1	196.9	160.6
35°	599.3	481.0	271.1	145.9	110.5
37.5°	570.8	439.5	221.9	101.0	69.9
40°	542.3	398.9	175.3	63.9	35.4
42.5°	512.9	356.6	133.0	31.9	24.2
45°	481.0	315.2	94.1	23.3	19.0
47.5°	450.7	275.5	62.2	19.0	14.7
50°	419.7	235.7	33.7	13.8	10.4
52.5°	388.6	197.7	24.2	10.4	6.9
55°	358.4	158.9	19.0	6.9	4.3
57.5°	327.3	125.2	14.7	4.3	2.6
60°	296.2	92.4	10.4	2.6	1.7
62.5°	265.1	63.9	6.9	1.7	0.9
65°	233.1	38.9	4.3	0.9	0.9
67.5°	200.3	26.8	2.6	0.9	0.9
70°	169.2	19.0	1.7	0.9	0.9
72.5°	138.2	12.1	0.9	0.9	0.0
75°	108.8	6.9	0.9	0.9	0.9
77.5°	80.3	2.6	0.9	0.9	0.0
80°	54.4	0.9	0.9	0.9	0.0
82.5°	30.2	0.0	0.9	0.9	0.0
85°	10.4	0.0	0.0	0.9	0.0
87.5°	0.0	0.0	0.0	0.9	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	17.06	18.34	17.42	18.65	18.97	0.00	0.00	0.00	0.00	0.00
	3H	19.00	20.14	19.38	20.47	20.83	0.00	0.00	0.00	0.00	0.00
	4H	19.83	20.89	20.24	21.24	21.62	0.00	0.00	0.00	0.00	0.00
	6H	20.39	21.36	20.80	21.73	22.12	0.00	0.00	0.00	0.00	0.00
	8H	20.51	21.43	20.94	21.82	22.23	0.00	0.00	0.00	0.00	0.00
	12H	20.54	21.41	20.97	21.80	22.23	0.00	0.00	0.00	0.00	0.00
4H	2H	16.82	17.88	17.23	18.23	18.61	0.00	0.00	0.00	0.00	0.00
	3H	18.78	19.64	19.19	20.04	20.45	0.00	0.00	0.00	0.00	0.00
	4H	19.59	20.36	20.03	20.78	21.22	0.00	0.00	0.00	0.00	0.00
	6H	20.19	20.85	20.66	21.30	21.77	0.00	0.00	0.00	0.00	0.00
	8H	20.34	20.96	20.81	21.41	21.88	0.00	0.00	0.00	0.00	0.00
	12H	20.39	20.93	20.88	21.42	21.89	0.00	0.00	0.00	0.00	0.00
8H	4H	19.45	20.07	19.92	20.51	20.98	0.00	0.00	0.00	0.00	0.00
	6H	20.03	20.53	20.53	21.03	21.51	0.00	0.00	0.00	0.00	0.00
	8H	20.18	20.63	20.70	21.15	21.64	0.00	0.00	0.00	0.00	0.00
	12H	20.24	20.63	20.75	21.13	21.70	0.00	0.00	0.00	0.00	0.00
12H	4H	19.40	19.94	19.89	20.43	20.90	0.00	0.00	0.00	0.00	0.00
	6H	19.97	20.42	20.49	20.93	21.43	0.00	0.00	0.00	0.00	0.00
	8H	20.13	20.53	20.65	21.03	21.60	0.00	0.00	0.00	0.00	0.00