

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: P1055800

Luminaire Tested: S123R3DR-H775D850-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055800  
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-H775D850-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

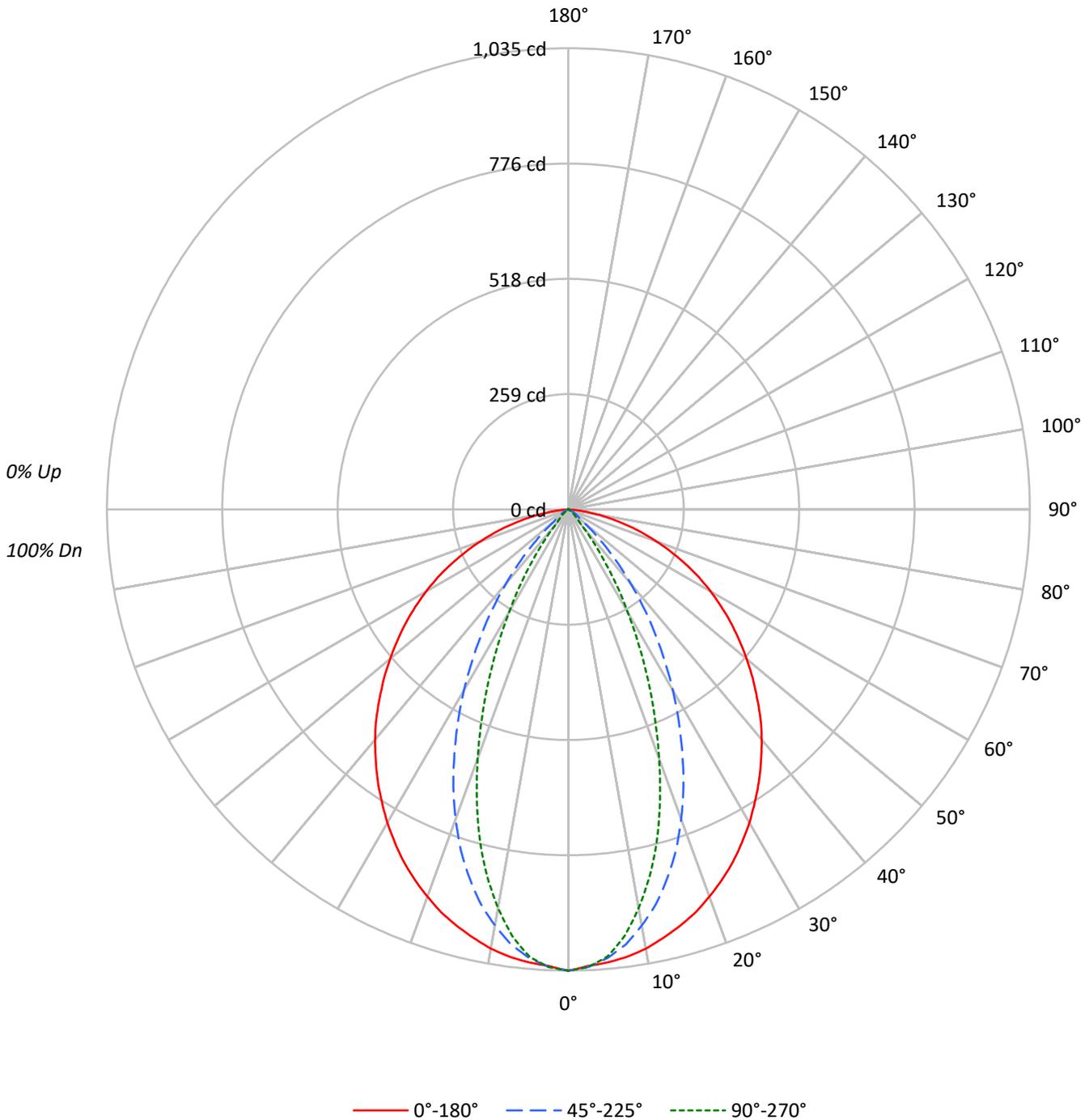
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1211.7 lumens  
Efficiency: N/A  
Efficacy: 50.9 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 (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

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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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

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

	0°	45°	90°
0°	12482	12482	12482
5°	12347	12231	12191
10°	12253	11609	11122
15°	12077	10697	9585
20°	11863	9493	7634
25°	11615	8043	5628
30°	11303	6518	3693
35°	10969	4963	2024
40°	10614	3431	692
45°	10200	1997	402
50°	9789	786	242
55°	9368	496	114
60°	8883	311	51
65°	8273	154	31
70°	7420	74	39
75°	6303	51	51
80°	4700	76	0
85°	1784	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10200 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.9	7.8
10°-20°	240.9	19.9
20°-30°	287.3	23.7
30°-40°	243.7	20.1
40°-50°	165.7	13.7
50°-60°	102.7	8.5
60°-70°	52.0	4.3
70°-80°	21.2	1.8
80°-90°	3.3	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°	623.1	51.4
0°-40°	866.9	71.5
0°-60°	1135.2	93.7
0°-90°	1211.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1211.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1035	1035	1035	1035	1035	
5°	1020	1030	1011	1003	1007	97
15°	968	943	857	789	768	273
25°	873	792	605	467	423	402
35°	745	598	337	182	138	466
45°	598	392	117	29	24	462
55°	446	198	24	9	5	398
65°	290	48	5	1	1	286
75°	135	9	1	1	1	144
85°	13	0	0	1	0	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1035.3	1035.3	1035.3	1035.3	1035.3
2.5°	1025.6	1039.6	1027.7	1026.7	1027.7
5°	1020.2	1029.9	1010.6	1003.0	1007.3
7.5°	1012.7	1017.0	984.8	965.5	965.5
10°	1000.9	997.7	948.3	916.1	908.5
12.5°	984.8	971.9	907.5	857.0	843.0
15°	967.6	942.9	857.0	789.3	767.9
17.5°	948.3	910.7	802.2	714.2	683.0
20°	924.6	874.2	739.9	632.5	595.0
22.5°	899.9	834.4	674.4	548.8	506.9
25°	873.1	791.5	604.6	467.2	423.1
27.5°	843.0	746.4	535.9	388.8	340.4
30°	811.9	699.1	468.2	313.6	265.3
32.5°	778.6	649.7	400.6	244.9	199.7
35°	745.3	598.2	337.2	181.5	137.5
37.5°	709.9	546.6	276.0	125.6	87.0
40°	674.4	496.2	218.0	79.5	44.0
42.5°	637.9	443.5	165.4	39.7	30.1
45°	598.2	392.0	117.1	29.0	23.6
47.5°	560.6	342.6	77.3	23.6	18.3
50°	521.9	293.2	41.9	17.2	12.9
52.5°	483.3	245.9	30.1	12.9	8.6
55°	445.7	197.6	23.6	8.6	5.4
57.5°	407.0	155.7	18.3	5.4	3.2
60°	368.4	114.9	12.9	3.2	2.1
62.5°	329.7	79.5	8.6	2.1	1.1
65°	290.0	48.3	5.4	1.1	1.1
67.5°	249.1	33.3	3.2	1.1	1.1
70°	210.5	23.6	2.1	1.1	1.1
72.5°	171.8	15.0	1.1	1.1	0.0
75°	135.3	8.6	1.1	1.1	1.1
77.5°	99.9	3.2	1.1	1.1	0.0
80°	67.7	1.1	1.1	1.1	0.0
82.5°	37.6	0.0	1.1	1.1	0.0
85°	12.9	0.0	0.0	1.1	0.0
87.5°	0.0	0.0	0.0	1.1	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	17.82	19.10	18.18	19.41	19.73	0.00	0.00	0.00	0.00	0.00
	3H	19.76	20.90	20.14	21.23	21.59	0.00	0.00	0.00	0.00	0.00
	4H	20.59	21.65	20.99	22.00	22.38	0.00	0.00	0.00	0.00	0.00
	6H	21.14	22.11	21.56	22.48	22.88	0.00	0.00	0.00	0.00	0.00
	8H	21.27	22.19	21.70	22.58	22.98	0.00	0.00	0.00	0.00	0.00
	12H	21.29	22.17	21.73	22.55	22.98	0.00	0.00	0.00	0.00	0.00
4H	2H	17.58	18.64	17.98	18.99	19.37	0.00	0.00	0.00	0.00	0.00
	3H	19.53	20.40	19.95	20.80	21.20	0.00	0.00	0.00	0.00	0.00
	4H	20.35	21.12	20.78	21.54	21.98	0.00	0.00	0.00	0.00	0.00
	6H	20.95	21.61	21.41	22.06	22.53	0.00	0.00	0.00	0.00	0.00
	8H	21.10	21.72	21.57	22.17	22.64	0.00	0.00	0.00	0.00	0.00
	12H	21.15	21.69	21.64	22.18	22.65	0.00	0.00	0.00	0.00	0.00
8H	4H	20.20	20.82	20.67	21.27	21.74	0.00	0.00	0.00	0.00	0.00
	6H	20.79	21.29	21.29	21.79	22.27	0.00	0.00	0.00	0.00	0.00
	8H	20.94	21.39	21.46	21.90	22.40	0.00	0.00	0.00	0.00	0.00
	12H	20.99	21.39	21.51	21.89	22.46	0.00	0.00	0.00	0.00	0.00
12H	4H	20.16	20.70	20.64	21.18	21.66	0.00	0.00	0.00	0.00	0.00
	6H	20.72	21.17	21.25	21.69	22.18	0.00	0.00	0.00	0.00	0.00
	8H	20.89	21.29	21.41	21.78	22.36	0.00	0.00	0.00	0.00	0.00