

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: P1055817

Luminaire Tested: S123R3DR-H775D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055817  
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-H775D950-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

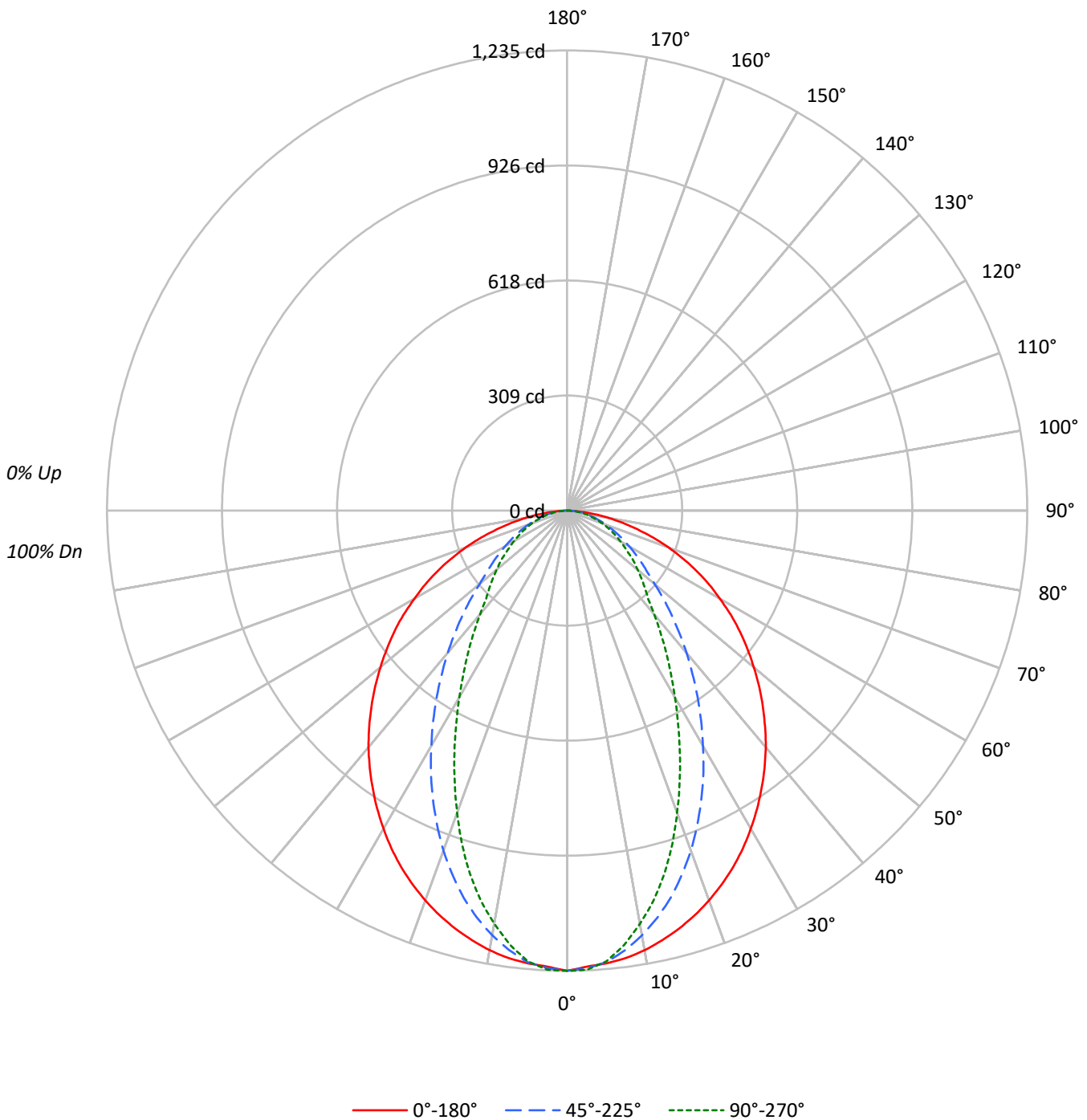
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2166.3 lumens  
Efficiency: N/A  
Efficacy: 91.0 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): 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	14892	14892	14892
5°	14758	14725	14691
10°	14669	14172	13786
15°	14494	13422	12592
20°	14283	12457	11071
25°	14034	11343	9525
30°	13722	10147	8051
35°	13394	8974	6798
40°	13057	7836	5715
45°	12665	6757	5040
50°	12269	5753	4627
55°	11903	5127	4271
60°	11405	4634	3988
65°	10938	4242	3743
70°	10194	3909	3518
75°	9125	3615	3312
80°	7825	3333	3076
85°	5492	3071	2933

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12665 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.5	5.3
10°-20°	302.9	14.0
20°-30°	399.0	18.4
30°-40°	405.0	18.7
40°-50°	352.0	16.3
50°-60°	275.8	12.7
60°-70°	187.4	8.7
70°-80°	101.6	4.7
80°-90°	28.0	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°	816.5	37.7
0°-40°	1221.5	56.4
0°-60°	1849.3	85.4
0°-90°	2166.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2166.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1219	1234	1217	1206	1214	116
15°	1161	1145	1075	1023	1009	327
25°	1055	991	853	746	716	486
35°	910	802	610	493	462	569
45°	743	596	396	306	296	573
55°	566	394	244	208	203	505
65°	383	212	149	133	131	379
75°	196	98	78	72	71	209
85°	40	24	22	20	21	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1235.2	1235.2	1235.2	1235.2	1235.2
2.5°	1225.0	1240.7	1228.7	1229.6	1233.3
5°	1219.4	1234.2	1216.7	1205.6	1213.9
7.5°	1211.1	1222.2	1189.9	1172.3	1175.1
10°	1198.2	1201.9	1157.6	1129.8	1126.1
12.5°	1180.6	1174.2	1118.8	1078.1	1071.6
15°	1161.2	1144.6	1075.3	1022.7	1008.8
17.5°	1139.1	1111.4	1024.5	959.9	938.6
20°	1113.2	1074.4	970.9	888.7	862.9
22.5°	1085.5	1035.6	912.7	815.7	788.9
25°	1055.0	991.3	852.7	746.5	716.0
27.5°	1021.8	946.9	791.7	678.1	643.9
30°	985.7	900.7	728.9	611.6	578.3
32.5°	948.8	851.8	668.8	549.7	517.3
35°	910.0	801.9	609.7	493.3	461.9
37.5°	870.2	751.1	552.4	439.7	410.2
40°	829.6	699.3	497.9	389.9	363.1
42.5°	786.2	647.6	445.3	342.7	322.4
45°	742.8	595.9	396.3	305.8	295.6
47.5°	699.3	543.2	350.1	279.9	270.7
50°	654.1	492.4	306.7	255.9	246.7
52.5°	609.7	442.5	270.7	232.8	226.3
55°	566.3	393.5	243.9	207.9	203.2
57.5°	521.0	345.5	217.1	188.5	182.9
60°	473.0	299.3	192.2	168.1	165.4
62.5°	429.6	255.9	170.0	150.6	147.8
65°	383.4	212.5	148.7	133.0	131.2
67.5°	336.3	176.5	129.3	116.4	115.5
70°	289.2	148.7	110.9	100.7	99.8
72.5°	243.0	122.9	93.3	86.8	85.0
75°	195.9	97.9	77.6	72.1	71.1
77.5°	153.4	75.8	61.9	58.2	57.3
80°	112.7	56.4	48.0	45.3	44.3
82.5°	73.9	38.8	34.2	32.3	32.3
85°	39.7	24.0	22.2	20.3	21.2
87.5°	13.9	10.2	10.2	9.2	10.2
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	19.94	21.43	20.31	21.75	22.06	15.09	16.58	15.46	16.90	17.21
	3H	21.83	23.17	22.21	23.50	23.86	16.72	18.06	17.10	18.39	18.75
	4H	22.58	23.84	22.98	24.19	24.57	17.36	18.61	17.76	18.96	19.34
	6H	23.15	24.31	23.56	24.68	25.07	17.85	19.01	18.26	19.37	19.76
	8H	23.32	24.43	23.75	24.82	25.22	18.02	19.12	18.44	19.51	19.91
	12H	23.42	24.48	23.85	24.86	25.29	18.14	19.20	18.57	19.58	20.01
4H	2H	19.99	21.24	20.39	21.59	21.97	15.82	17.07	16.22	17.42	17.80
	3H	22.00	23.05	22.42	23.45	23.85	17.64	18.68	18.05	19.08	19.49
	4H	22.82	23.76	23.26	24.18	24.62	18.39	19.33	18.82	19.74	20.18
	6H	23.51	24.32	23.96	24.77	25.23	19.00	19.81	19.45	20.26	20.72
	8H	23.74	24.50	24.20	24.94	25.41	19.21	19.97	19.67	20.42	20.89
	12H	23.89	24.57	24.37	25.05	25.52	19.38	20.06	19.86	20.54	21.01
8H	4H	22.85	23.61	23.31	24.05	24.52	18.77	19.53	19.23	19.98	20.45
	6H	23.58	24.21	24.07	24.70	25.18	19.50	20.13	20.00	20.62	21.10
	8H	23.85	24.41	24.36	24.92	25.41	19.79	20.35	20.30	20.86	21.35
	12H	24.05	24.55	24.56	25.05	25.61	20.03	20.53	20.54	21.02	21.59
12H	4H	22.83	23.51	23.31	23.99	24.46	18.82	19.51	19.31	19.99	20.46
	6H	23.56	24.13	24.07	24.64	25.13	19.58	20.15	20.10	20.66	21.15
	8H	23.87	24.37	24.38	24.86	25.42	19.93	20.43	20.44	20.92	21.48