

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: P1055795

Luminaire Tested: S123R3DR-H775D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055795  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H775D835-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

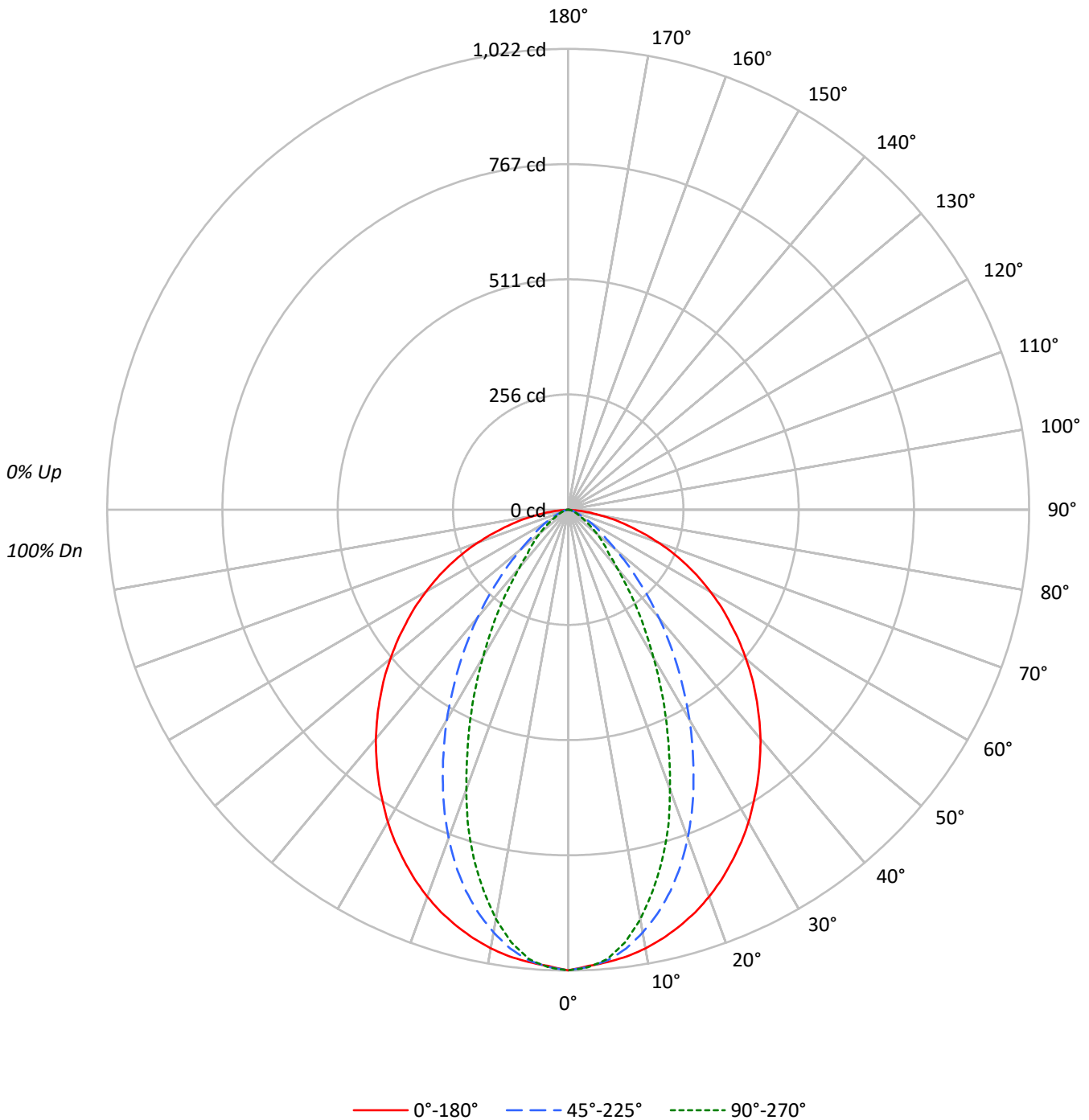
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1420.8 lumens  
Efficiency: N/A  
Efficacy: 59.7 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	12317	12317	12317
5°	12188	12141	12106
10°	12092	11654	11286
15°	11930	10926	10044
20°	11717	9940	8461
25°	11439	8747	6827
30°	11136	7495	5258
35°	10790	6186	3891
40°	10439	4923	2652
45°	10055	3681	1998
50°	9645	2560	1562
55°	9221	1873	1139
60°	8779	1401	817
65°	8259	939	636
70°	7477	684	511
75°	6452	498	405
80°	5179	403	333
85°	2684	401	263

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10055 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.4	6.6
10°-20°	245.8	17.3
20°-30°	308.9	21.7
30°-40°	287.7	20.2
40°-50°	220.2	15.5
50°-60°	146.4	10.3
60°-70°	78.9	5.6
70°-80°	32.3	2.3
80°-90°	6.2	0.4
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°	649.1	45.7
0°-40°	936.8	65.9
0°-60°	1303.4	91.7
0°-90°	1420.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1420.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1022	1022	1022	1022	1022	
5°	1007	1018	1003	999	1000	96
15°	956	940	875	824	805	269
25°	860	802	658	548	513	396
35°	733	625	420	297	264	458
45°	590	436	216	127	117	455
55°	439	254	89	62	54	393
65°	290	98	33	24	22	286
75°	138	23	11	10	9	148
85°	19	3	3	3	2	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1021.6	1021.6	1021.6	1021.6	1021.6
2.5°	1012.9	1025.5	1014.9	1015.8	1015.8
5°	1007.1	1017.8	1003.2	999.4	1000.3
7.5°	999.4	1006.1	981.9	969.3	967.4
10°	987.7	989.7	951.9	929.6	921.9
12.5°	973.2	966.4	917.0	880.2	865.7
15°	955.8	940.3	875.4	824.1	804.7
17.5°	936.4	910.3	828.0	761.1	737.9
20°	913.2	876.4	774.7	691.4	659.5
22.5°	888.0	840.5	718.5	619.8	583.9
25°	859.9	801.8	657.5	548.1	513.2
27.5°	830.9	760.2	597.5	480.3	444.5
30°	799.9	717.6	538.4	414.5	377.7
32.5°	766.0	671.1	477.4	353.5	316.7
35°	733.1	624.6	420.3	297.3	264.4
37.5°	698.2	578.1	365.1	247.9	211.1
40°	663.3	530.7	312.8	199.5	168.5
42.5°	626.5	483.2	263.4	158.8	134.6
45°	589.7	435.8	215.9	126.9	117.2
47.5°	552.9	388.3	174.3	109.4	99.7
50°	514.2	342.8	136.5	93.0	83.3
52.5°	477.4	297.3	106.5	76.5	67.8
55°	438.7	253.7	89.1	62.0	54.2
57.5°	402.8	209.2	73.6	48.4	42.6
60°	364.1	169.5	58.1	37.8	33.9
62.5°	327.3	132.7	44.5	30.0	27.1
65°	289.5	97.8	32.9	24.2	22.3
67.5°	251.8	70.7	25.2	19.4	18.4
70°	212.1	53.3	19.4	15.5	14.5
72.5°	174.3	37.8	14.5	12.6	11.6
75°	138.5	23.2	10.7	9.7	8.7
77.5°	106.5	13.6	7.7	7.7	6.8
80°	74.6	7.7	5.8	5.8	4.8
82.5°	45.5	4.8	3.9	3.9	3.9
85°	19.4	2.9	2.9	2.9	1.9
87.5°	2.9	1.0	1.0	1.0	1.0
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	18.54	19.89	18.90	20.21	20.52	7.11	8.47	7.47	8.78	9.09
	3H	20.29	21.50	20.67	21.83	22.19	7.77	8.98	8.15	9.31	9.67
	4H	20.99	22.11	21.39	22.47	22.85	7.97	9.09	8.37	9.44	9.83
	6H	21.50	22.54	21.92	22.91	23.30	8.09	9.12	8.50	9.49	9.89
	8H	21.64	22.62	22.07	23.01	23.42	8.12	9.10	8.55	9.49	9.90
	12H	21.69	22.63	22.13	23.01	23.44	8.13	9.07	8.57	9.45	9.88
4H	2H	18.35	19.47	18.75	19.82	20.20	7.66	8.79	8.07	9.14	9.52
	3H	20.14	21.06	20.55	21.46	21.87	8.46	9.39	8.88	9.79	10.19
	4H	20.83	21.66	21.27	22.07	22.52	8.72	9.55	9.16	9.96	10.41
	6H	21.40	22.11	21.87	22.56	23.02	8.92	9.63	9.38	10.07	10.54
	8H	21.58	22.24	22.05	22.69	23.16	8.97	9.64	9.44	10.08	10.55
	12H	21.66	22.25	22.15	22.73	23.21	9.00	9.59	9.49	10.07	10.55
8H	4H	20.71	21.37	21.18	21.82	22.29	9.04	9.70	9.50	10.15	10.62
	6H	21.26	21.81	21.77	22.30	22.78	9.28	9.82	9.78	10.32	10.80
	8H	21.44	21.92	21.96	22.44	22.93	9.37	9.86	9.89	10.37	10.86
	12H	21.54	21.97	22.06	22.47	23.04	9.45	9.88	9.97	10.37	10.94
12H	4H	20.67	21.25	21.15	21.74	22.21	9.08	9.67	9.57	10.15	10.62
	6H	21.21	21.69	21.73	22.21	22.70	9.33	9.81	9.85	10.33	10.82
	8H	21.40	21.83	21.91	22.32	22.89	9.46	9.88	9.97	10.38	10.95