

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: P1055630

Luminaire Tested: S123R3DR-S560D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055630  
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-S560D830-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

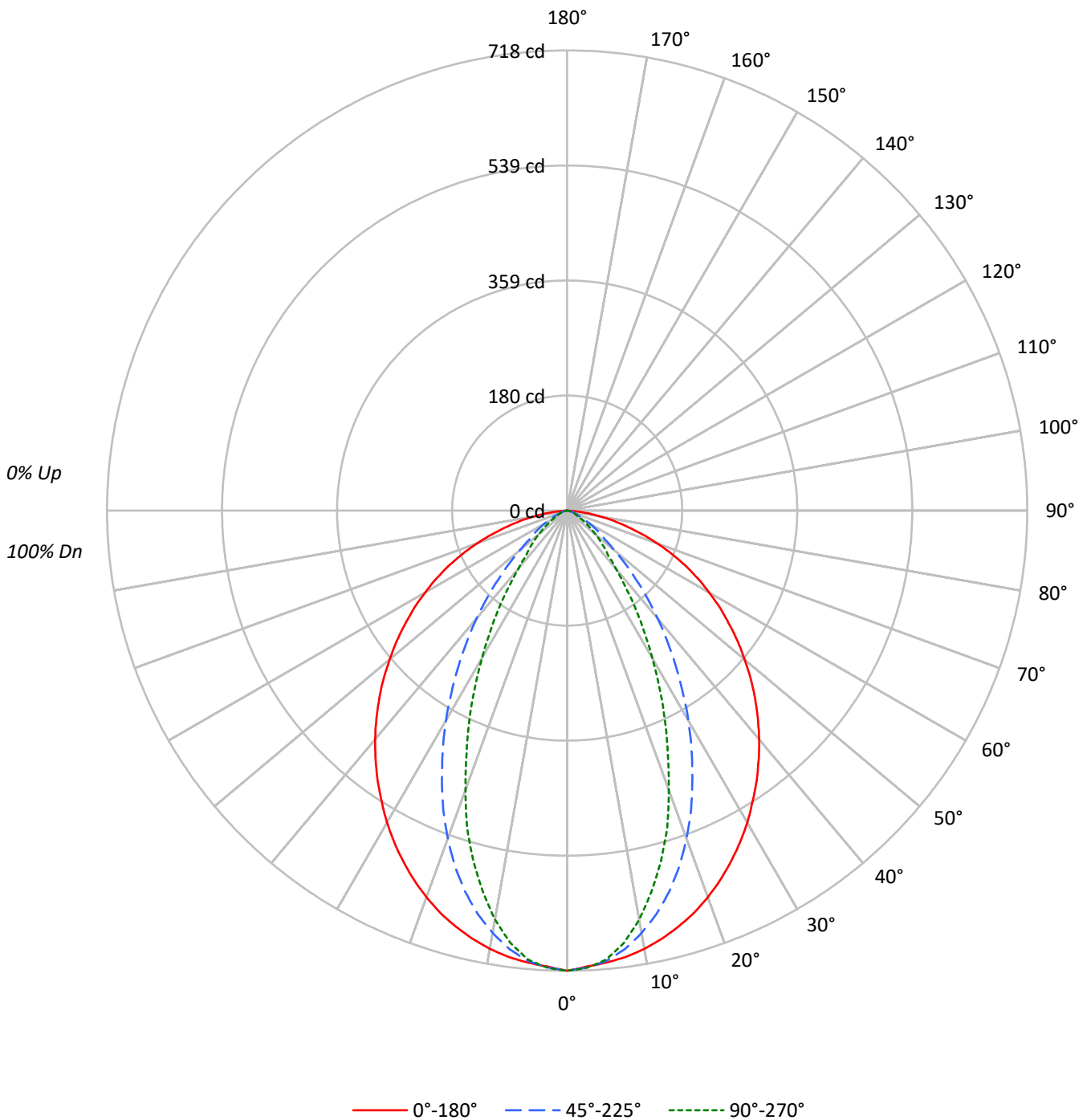
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 998.6 lumens  
Efficiency: N/A  
Efficacy: 52.3 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): 19.1  
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	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	63					63			
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°	8658	8658	8658
5°	8567	8535	8509
10°	8500	8191	7933
15°	8385	7680	7060
20°	8236	6986	5947
25°	8040	6149	4798
30°	7827	5268	3696
35°	7584	4348	2735
40°	7337	3459	1863
45°	7067	2588	1405
50°	6779	1801	1097
55°	6480	1316	801
60°	6170	984	574
65°	5805	659	448
70°	5256	479	360
75°	4532	349	284
80°	3638	285	236
85°	1881	277	194

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7067 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.4	6.6
10°-20°	172.8	17.3
20°-30°	217.1	21.7
30°-40°	202.2	20.2
40°-50°	154.8	15.5
50°-60°	102.9	10.3
60°-70°	55.4	5.6
70°-80°	22.7	2.3
80°-90°	4.3	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°	456.3	45.7
0°-40°	658.4	65.9
0°-60°	916.1	91.7
0°-90°	998.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	998.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	718	718	718	718	718	
5°	708	715	705	702	703	67
15°	672	661	615	579	566	189
25°	604	564	462	385	361	278
35°	515	439	295	209	186	322
45°	414	306	152	89	82	320
55°	308	178	63	44	38	276
65°	204	69	23	17	16	201
75°	97	16	8	7	6	104
85°	14	2	2	2	1	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	718.1	718.1	718.1	718.1	718.1
2.5°	712.0	720.8	713.3	714.0	714.0
5°	707.9	715.4	705.2	702.4	703.1
7.5°	702.4	707.2	690.2	681.3	680.0
10°	694.3	695.6	669.1	653.4	648.0
12.5°	684.1	679.3	644.6	618.7	608.5
15°	671.8	660.9	615.3	579.2	565.6
17.5°	658.2	639.8	582.0	535.0	518.7
20°	641.9	616.0	544.5	486.0	463.5
22.5°	624.2	590.8	505.0	435.6	410.4
25°	604.4	563.6	462.2	385.2	360.7
27.5°	584.0	534.3	420.0	337.6	312.4
30°	562.2	504.4	378.4	291.3	265.5
32.5°	538.4	471.7	335.6	248.4	222.6
35°	515.3	439.0	295.4	209.0	185.8
37.5°	490.7	406.3	256.6	174.2	148.4
40°	466.2	373.0	219.8	140.2	118.4
42.5°	440.4	339.6	185.1	111.6	94.6
45°	414.5	306.3	151.8	89.2	82.4
47.5°	388.7	272.9	122.5	76.9	70.1
50°	361.4	240.9	96.0	65.3	58.5
52.5°	335.6	209.0	74.9	53.8	47.6
55°	308.3	178.3	62.6	43.6	38.1
57.5°	283.1	147.0	51.7	34.0	29.9
60°	255.9	119.1	40.8	26.5	23.8
62.5°	230.1	93.2	31.3	21.1	19.1
65°	203.5	68.7	23.1	17.0	15.7
67.5°	177.0	49.7	17.7	13.6	12.9
70°	149.1	37.4	13.6	10.9	10.2
72.5°	122.5	26.5	10.2	8.8	8.2
75°	97.3	16.3	7.5	6.8	6.1
77.5°	74.9	9.5	5.4	5.4	4.8
80°	52.4	5.4	4.1	4.1	3.4
82.5°	32.0	3.4	2.7	2.7	2.7
85°	13.6	2.0	2.0	2.0	1.4
87.5°	2.0	0.7	0.7	0.7	0.7
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	17.31	18.67	17.68	18.98	19.30	5.88	7.23	6.24	7.55	7.86
	3H	19.07	20.27	19.44	20.60	20.96	6.54	7.75	6.92	8.08	8.44
	4H	19.76	20.89	20.17	21.24	21.62	6.74	7.86	7.14	8.21	8.59
	6H	20.28	21.31	20.69	21.68	22.07	6.86	7.89	7.27	8.26	8.66
	8H	20.42	21.40	20.85	21.79	22.19	6.89	7.87	7.32	8.26	8.67
	12H	20.47	21.41	20.90	21.79	22.22	6.90	7.84	7.34	8.22	8.65
4H	2H	17.12	18.24	17.52	18.59	18.98	6.43	7.56	6.84	7.91	8.29
	3H	18.91	19.83	19.32	20.24	20.64	7.23	8.15	7.65	8.56	8.96
	4H	19.61	20.43	20.04	20.85	21.29	7.49	8.31	7.93	8.73	9.18
	6H	20.18	20.89	20.64	21.33	21.80	7.69	8.40	8.15	8.85	9.31
	8H	20.35	21.01	20.82	21.46	21.93	7.74	8.40	8.21	8.85	9.32
	12H	20.44	21.02	20.92	21.51	21.98	7.77	8.36	8.26	8.84	9.32
8H	4H	19.48	20.15	19.95	20.59	21.06	7.80	8.47	8.27	8.91	9.38
	6H	20.04	20.58	20.54	21.07	21.56	8.05	8.59	8.55	9.09	9.57
	8H	20.21	20.70	20.73	21.21	21.71	8.14	8.62	8.66	9.14	9.63
	12H	20.32	20.75	20.83	21.24	21.81	8.22	8.65	8.73	9.14	9.71
12H	4H	19.44	20.03	19.93	20.51	20.98	7.85	8.43	8.33	8.92	9.39
	6H	19.98	20.46	20.50	20.98	21.47	8.10	8.58	8.62	9.10	9.59
	8H	20.17	20.60	20.69	21.10	21.67	8.22	8.65	8.74	9.15	9.72