

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: P1055634

Luminaire Tested: S123R3DR-S560D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055634  
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-S560D835-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

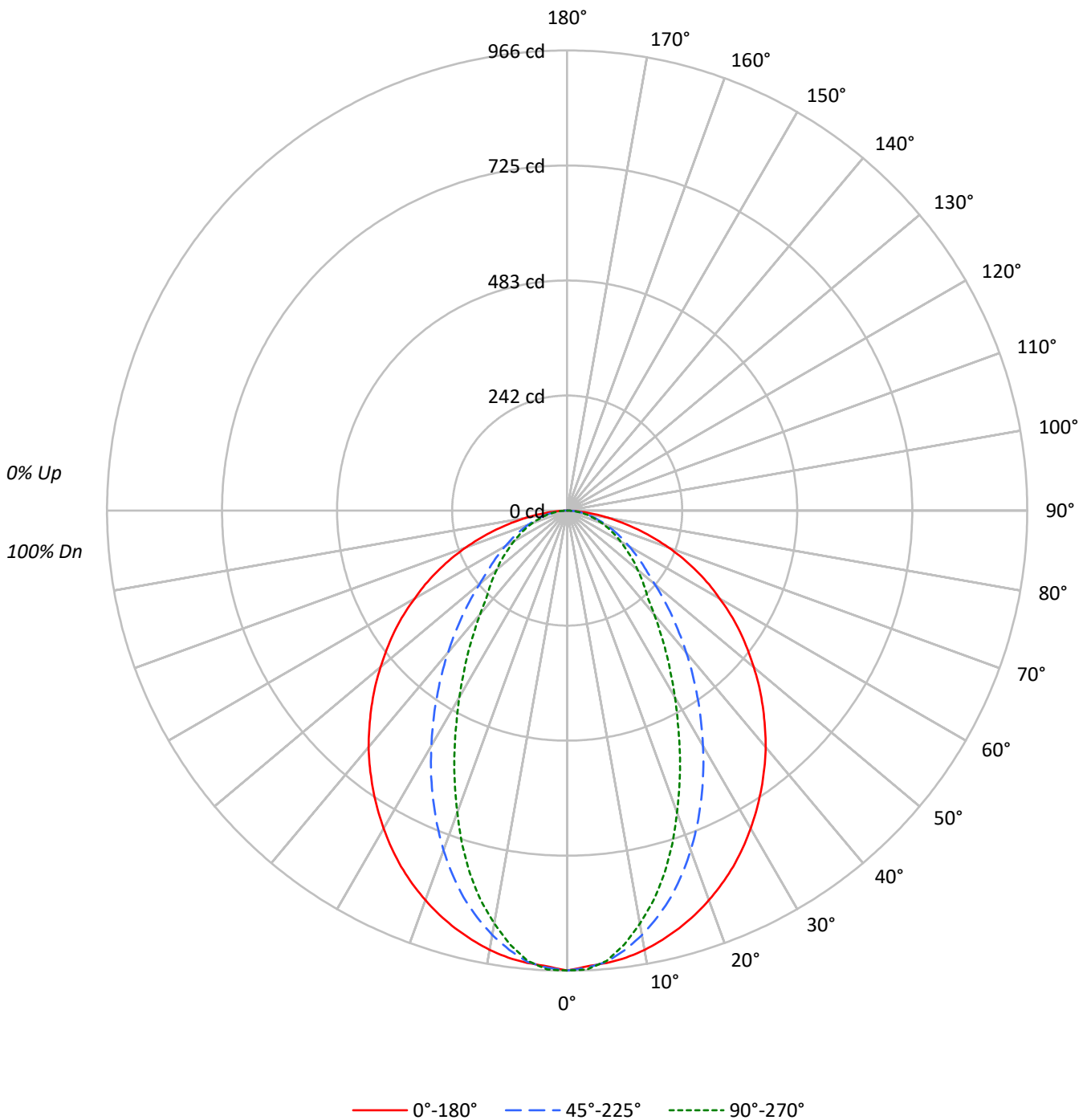
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1693.3 lumens  
Efficiency: N/A  
Efficacy: 88.7 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): 19.1  
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33

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

	0°	45°	90°
0°	11640	11640	11640
5°	11536	11511	11484
10°	11466	11077	10777
15°	11330	10492	9843
20°	11165	9738	8654
25°	10971	8866	7446
30°	10727	7932	6294
35°	10469	7015	5315
40°	10206	6125	4467
45°	9899	5282	3940
50°	9590	4498	3616
55°	9305	4006	3340
60°	8915	3622	3118
65°	8550	3318	2924
70°	7967	3056	2750
75°	7132	2828	2590
80°	6117	2611	2409
85°	4302	2393	2296

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9899 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.5	5.3
10°-20°	236.8	14.0
20°-30°	311.9	18.4
30°-40°	316.6	18.7
40°-50°	275.2	16.3
50°-60°	215.6	12.7
60°-70°	146.5	8.7
70°-80°	79.4	4.7
80°-90°	21.9	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°	638.2	37.7
0°-40°	954.8	56.4
0°-60°	1445.6	85.4
0°-90°	1693.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1693.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	966	966	966	966	966	
5°	953	965	951	942	949	90
15°	908	895	841	799	789	256
25°	825	775	666	584	560	380
35°	711	627	477	386	361	445
45°	581	466	310	239	231	448
55°	443	308	191	162	159	395
65°	300	166	116	104	102	296
75°	153	76	61	56	56	163
85°	31	19	17	16	17	39
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	965.5	965.5	965.5	965.5	965.5
2.5°	957.6	969.8	960.4	961.2	964.1
5°	953.2	964.8	951.1	942.4	948.9
7.5°	946.7	955.4	930.1	916.4	918.6
10°	936.6	939.5	904.8	883.2	880.3
12.5°	922.9	917.8	874.5	842.7	837.7
15°	907.7	894.7	840.6	799.4	788.6
17.5°	890.4	868.7	800.9	750.3	733.7
20°	870.2	839.9	759.0	694.7	674.5
22.5°	848.5	809.5	713.5	637.7	616.7
25°	824.7	774.9	666.5	583.5	559.7
27.5°	798.7	740.2	618.9	530.1	503.3
30°	770.5	704.1	569.8	478.1	452.1
32.5°	741.6	665.8	522.8	429.7	404.4
35°	711.3	626.8	476.6	385.6	361.1
37.5°	680.3	587.1	431.8	343.7	320.6
40°	648.5	546.7	389.2	304.7	283.8
42.5°	614.5	506.2	348.1	267.9	252.0
45°	580.6	465.8	309.8	239.0	231.1
47.5°	546.7	424.6	273.7	218.8	211.6
50°	511.3	384.9	239.8	200.0	192.8
52.5°	476.6	345.9	211.6	182.0	176.9
55°	442.7	307.6	190.6	162.5	158.9
57.5°	407.3	270.1	169.7	147.3	143.0
60°	369.7	234.0	150.2	131.4	129.3
62.5°	335.8	200.0	132.9	117.7	115.5
65°	299.7	166.1	116.3	104.0	102.5
67.5°	262.9	137.9	101.1	91.0	90.3
70°	226.0	116.3	86.7	78.7	78.0
72.5°	189.9	96.0	72.9	67.9	66.4
75°	153.1	76.5	60.7	56.3	55.6
77.5°	119.9	59.2	48.4	45.5	44.8
80°	88.1	44.1	37.6	35.4	34.7
82.5°	57.8	30.3	26.7	25.3	25.3
85°	31.1	18.8	17.3	15.9	16.6
87.5°	10.8	7.9	7.9	7.2	7.9
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	19.09	20.58	19.45	20.89	21.21	14.23	15.73	14.60	16.04	16.35
	3H	20.97	22.31	21.35	22.64	23.00	15.86	17.20	16.24	17.53	17.89
	4H	21.73	22.98	22.13	23.33	23.71	16.50	17.75	16.90	18.10	18.48
	6H	22.29	23.45	22.71	23.82	24.21	16.99	18.15	17.40	18.52	18.91
	8H	22.47	23.57	22.89	23.96	24.36	17.16	18.26	17.59	18.65	19.06
	12H	22.56	23.62	22.99	24.00	24.43	17.28	18.34	17.72	18.72	19.15
4H	2H	19.13	20.39	19.53	20.74	21.12	14.96	16.22	15.36	16.57	16.95
	3H	21.15	22.19	21.56	22.59	22.99	16.78	17.83	17.20	18.23	18.63
	4H	21.97	22.91	22.40	23.32	23.76	17.53	18.47	17.96	18.89	19.33
	6H	22.65	23.47	23.11	23.91	24.37	18.14	18.96	18.60	19.40	19.86
	8H	22.88	23.64	23.34	24.09	24.56	18.35	19.12	18.82	19.56	20.03
	12H	23.03	23.71	23.51	24.19	24.66	18.52	19.21	19.01	19.68	20.16
8H	4H	21.99	22.75	22.45	23.20	23.67	17.91	18.68	18.38	19.12	19.59
	6H	22.72	23.35	23.22	23.84	24.32	18.64	19.27	19.14	19.77	20.24
	8H	22.99	23.56	23.50	24.07	24.55	18.93	19.50	19.45	20.01	20.50
	12H	23.20	23.70	23.71	24.19	24.76	19.18	19.68	19.69	20.17	20.73
12H	4H	21.98	22.66	22.46	23.14	23.61	17.97	18.65	18.45	19.13	19.60
	6H	22.70	23.27	23.22	23.78	24.27	18.73	19.29	19.24	19.80	20.29
	8H	23.01	23.51	23.52	24.00	24.57	19.07	19.57	19.58	20.07	20.63