

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: P1055586

Luminaire Tested: S123R3DR-S1165D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055586  
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-S1165D850-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

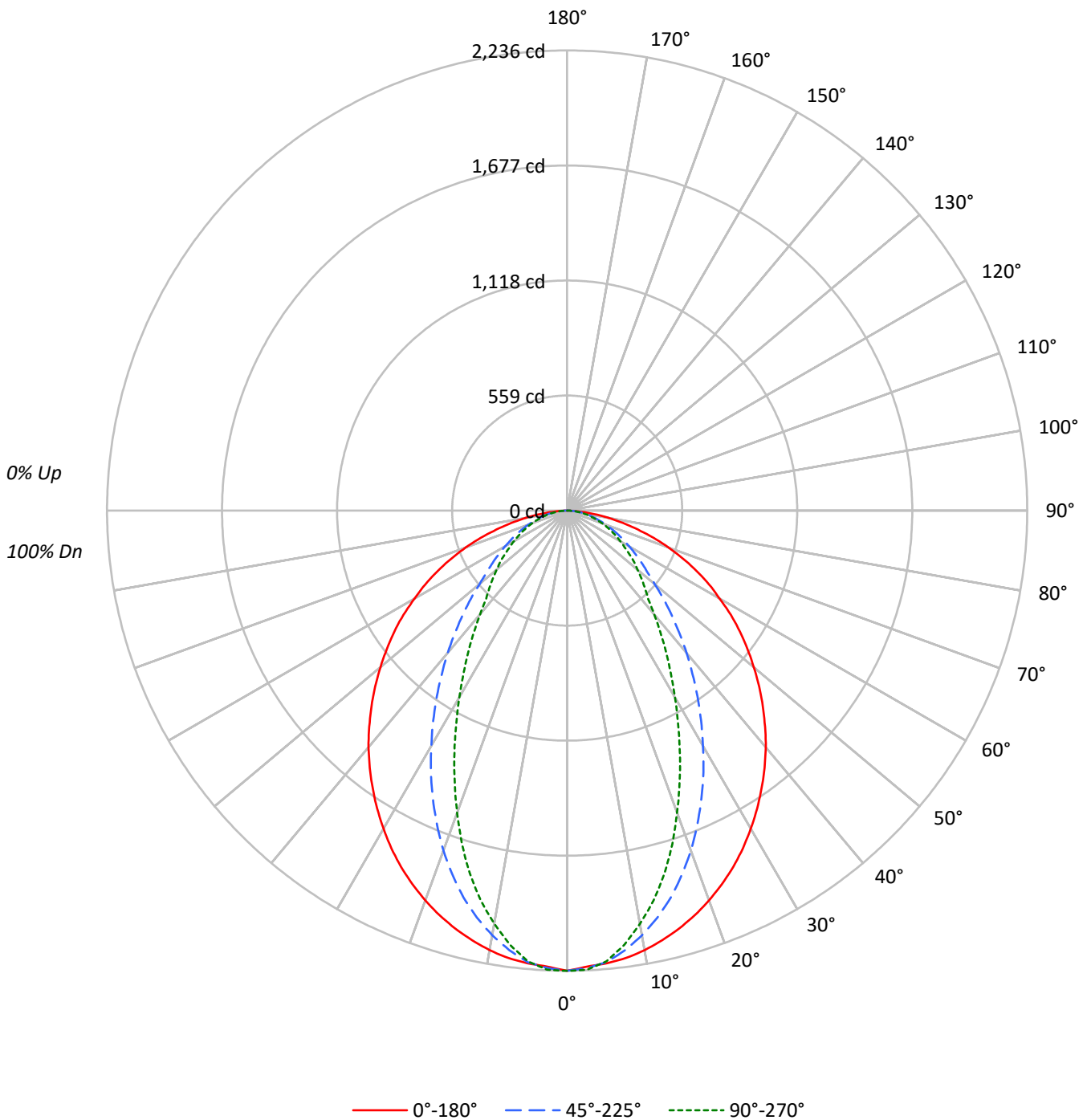
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3921.9 lumens  
Efficiency: N/A  
Efficacy: 93.6 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): 41.9  
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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

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

	0°	45°	90°
0°	26961	26961	26961
5°	26720	26658	26598
10°	26557	25656	24960
15°	26242	24299	22797
20°	25858	22553	20043
25°	25408	20537	17243
30°	24844	18371	14576
35°	24248	16247	12309
40°	23638	14188	10345
45°	22928	12234	9125
50°	22211	10415	8377
55°	21552	9282	7735
60°	20648	8389	7219
65°	19801	7683	6775
70°	18454	7075	6366
75°	16518	6545	6000
80°	14164	6040	5575
85°	9946	5547	5326

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 22928 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.3	5.3
10°-20°	548.4	14.0
20°-30°	722.5	18.4
30°-40°	733.3	18.7
40°-50°	637.4	16.3
50°-60°	499.4	12.7
60°-70°	339.3	8.7
70°-80°	183.9	4.7
80°-90°	50.6	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°	1478.2	37.7
0°-40°	2211.4	56.4
0°-60°	3348.2	85.4
0°-90°	3921.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3921.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2236	2236	2236	2236	2236	
5°	2208	2234	2203	2183	2198	210
15°	2102	2072	1947	1852	1826	593
25°	1910	1795	1544	1351	1296	879
35°	1648	1452	1104	893	836	1031
45°	1345	1079	718	554	535	1038
55°	1025	712	442	376	368	915
65°	694	385	269	241	238	685
75°	355	177	140	130	129	379
85°	72	44	40	37	38	90
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2236.2	2236.2	2236.2	2236.2	2236.2
2.5°	2217.8	2246.2	2224.5	2226.2	2232.8
5°	2207.8	2234.5	2202.7	2182.7	2197.7
7.5°	2192.7	2212.8	2154.2	2122.5	2127.5
10°	2169.3	2176.0	2095.7	2045.5	2038.8
12.5°	2137.5	2125.8	2025.4	1951.9	1940.1
15°	2102.4	2072.3	1946.8	1851.5	1826.4
17.5°	2062.2	2012.1	1854.8	1737.8	1699.3
20°	2015.4	1945.2	1757.8	1609.0	1562.2
22.5°	1965.2	1874.9	1652.5	1476.9	1428.3
25°	1910.0	1794.6	1543.8	1351.4	1296.2
27.5°	1849.8	1714.4	1433.4	1227.6	1165.8
30°	1784.6	1630.7	1319.6	1107.2	1047.0
32.5°	1717.7	1542.1	1210.9	995.2	936.6
35°	1647.5	1451.8	1103.9	893.1	836.3
37.5°	1575.5	1359.8	1000.2	796.1	742.6
40°	1501.9	1266.1	901.5	705.8	657.3
42.5°	1423.3	1172.5	806.2	620.5	583.7
45°	1344.7	1078.8	717.5	553.6	535.2
47.5°	1266.1	983.5	633.9	506.8	490.1
50°	1184.2	891.5	555.3	463.3	446.6
52.5°	1103.9	801.1	490.1	421.5	409.8
55°	1025.3	712.5	441.6	376.3	368.0
57.5°	943.3	625.5	393.0	341.2	331.2
60°	856.3	541.9	347.9	304.4	299.4
62.5°	777.7	463.3	307.7	272.6	267.6
65°	694.1	384.7	269.3	240.8	237.5
67.5°	608.8	319.5	234.2	210.7	209.1
70°	523.5	269.3	200.7	182.3	180.6
72.5°	439.9	222.4	168.9	157.2	153.9
75°	354.6	177.3	140.5	130.5	128.8
77.5°	277.6	137.1	112.1	105.4	103.7
80°	204.0	102.0	87.0	82.0	80.3
82.5°	133.8	70.2	61.9	58.5	58.5
85°	71.9	43.5	40.1	36.8	38.5
87.5°	25.1	18.4	18.4	16.7	18.4
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	22.00	23.50	22.37	23.81	24.12	17.15	18.65	17.52	18.96	19.27
	3H	23.89	25.23	24.27	25.56	25.92	18.78	20.12	19.16	20.45	20.81
	4H	24.65	25.90	25.05	26.25	26.63	19.42	20.67	19.82	21.02	21.40
	6H	25.21	26.37	25.62	26.74	27.13	19.91	21.07	20.32	21.43	21.83
	8H	25.38	26.49	25.81	26.88	27.28	20.08	21.18	20.50	21.57	21.97
	12H	25.48	26.54	25.91	26.92	27.35	20.20	21.26	20.63	21.64	22.07
4H	2H	22.05	23.31	22.45	23.65	24.03	17.88	19.14	18.28	19.49	19.87
	3H	24.07	25.11	24.48	25.51	25.91	19.70	20.75	20.11	21.15	21.55
	4H	24.88	25.82	25.32	26.24	26.68	20.45	21.39	20.88	21.80	22.24
	6H	25.57	26.38	26.02	26.83	27.29	21.06	21.88	21.52	22.32	22.78
	8H	25.80	26.56	26.26	27.01	27.47	21.27	22.04	21.74	22.48	22.95
	12H	25.95	26.63	26.43	27.11	27.58	21.44	22.12	21.92	22.60	23.07
8H	4H	24.91	25.67	25.37	26.12	26.58	20.83	21.60	21.30	22.04	22.51
	6H	25.64	26.27	26.13	26.76	27.24	21.56	22.19	22.06	22.68	23.16
	8H	25.91	26.47	26.42	26.98	27.47	21.85	22.41	22.36	22.92	23.41
	12H	26.12	26.62	26.63	27.11	27.67	22.09	22.59	22.60	23.09	23.65
12H	4H	24.89	25.58	25.38	26.05	26.53	20.89	21.57	21.37	22.05	22.52
	6H	25.62	26.19	26.14	26.70	27.19	21.64	22.21	22.16	22.72	23.21
	8H	25.93	26.43	26.44	26.92	27.48	21.99	22.49	22.50	22.98	23.55