

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: P1055583

Luminaire Tested: S123R3DR-S1165D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055583
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-S1165D840-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

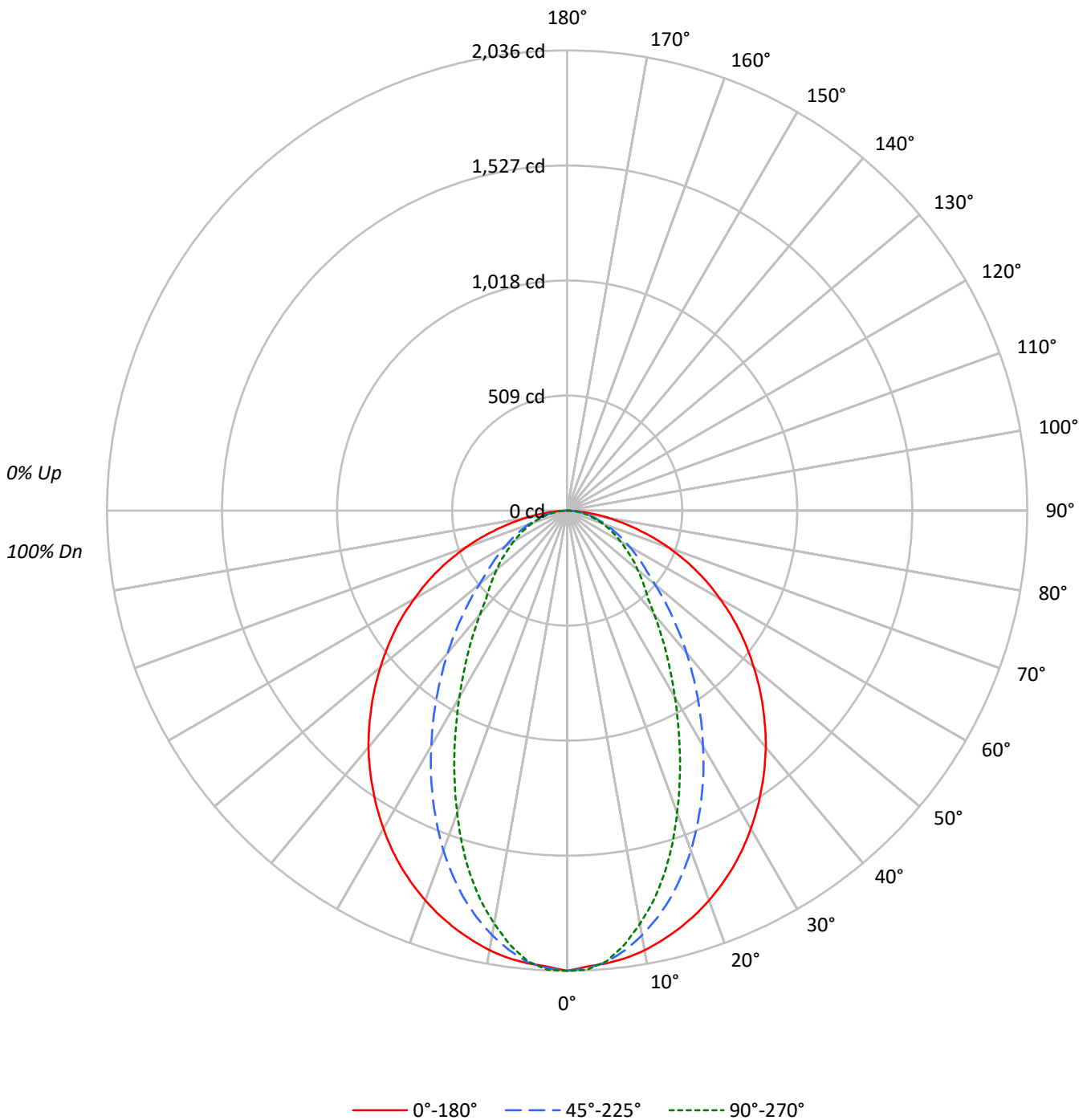
Lumens per Lamp: N/A
Luminaire Lumens: 3571.3 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
Input Voltage (V): 120
Input Current (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	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°	24550	24550	24550
5°	24331	24275	24221
10°	24184	23363	22729
15°	23895	22128	20758
20°	23547	20537	18251
25°	23138	18701	15701
30°	22624	16730	13273
35°	22080	14795	11208
40°	21526	12920	9421
45°	20878	11141	8310
50°	20225	9483	7626
55°	19624	8452	7044
60°	18803	7639	6573
65°	18032	6995	6171
70°	16804	6444	5799
75°	15041	5958	5464
80°	12900	5499	5075
85°	9061	5063	4842

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 20878 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.8	5.3
10°-20°	499.4	14.0
20°-30°	657.9	18.4
30°-40°	667.7	18.7
40°-50°	580.4	16.3
50°-60°	454.7	12.7
60°-70°	308.9	8.7
70°-80°	167.4	4.7
80°-90°	46.1	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°	1346.0	37.7
0°-40°	2013.8	56.4
0°-60°	3048.8	85.4
0°-90°	3571.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3571.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2036	2036	2036	2036	2036	
5°	2010	2035	2006	1988	2001	191
15°	1914	1887	1773	1686	1663	540
25°	1739	1634	1406	1231	1180	801
35°	1500	1322	1005	813	762	938
45°	1224	982	653	504	487	945
55°	934	649	402	343	335	833
65°	632	350	245	219	216	624
75°	323	161	128	119	117	345
85°	66	40	37	34	35	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2036.3	2036.3	2036.3	2036.3	2036.3
2.5°	2019.5	2045.4	2025.6	2027.2	2033.2
5°	2010.4	2034.8	2005.8	1987.6	2001.3
7.5°	1996.7	2015.0	1961.7	1932.7	1937.3
10°	1975.4	1981.5	1908.4	1862.7	1856.6
12.5°	1946.4	1935.8	1844.4	1777.4	1766.7
15°	1914.4	1887.0	1772.8	1686.0	1663.1
17.5°	1877.9	1832.2	1689.0	1582.4	1547.4
20°	1835.3	1771.3	1600.7	1465.2	1422.5
22.5°	1789.6	1707.3	1504.8	1344.8	1300.7
25°	1739.3	1634.2	1405.8	1230.6	1180.3
27.5°	1684.5	1561.1	1305.2	1117.9	1061.6
30°	1625.1	1485.0	1201.7	1008.2	953.4
32.5°	1564.2	1404.2	1102.7	906.2	852.9
35°	1500.2	1322.0	1005.2	813.3	761.5
37.5°	1434.7	1238.2	910.8	725.0	676.2
40°	1367.7	1152.9	820.9	642.7	598.6
42.5°	1296.1	1067.6	734.1	565.0	531.5
45°	1224.5	982.4	653.4	504.1	487.4
47.5°	1152.9	895.5	577.2	461.5	446.2
50°	1078.3	811.8	505.6	421.9	406.6
52.5°	1005.2	729.5	446.2	383.8	373.1
55°	933.6	648.8	402.1	342.7	335.1
57.5°	859.0	569.6	357.9	310.7	301.6
60°	779.8	493.5	316.8	277.2	272.6
62.5°	708.2	421.9	280.2	248.3	243.7
65°	632.1	350.3	245.2	219.3	216.3
67.5°	554.4	290.9	213.2	191.9	190.4
70°	476.7	245.2	182.8	166.0	164.5
72.5°	400.6	202.6	153.8	143.2	140.1
75°	322.9	161.4	127.9	118.8	117.3
77.5°	252.8	124.9	102.0	96.0	94.4
80°	185.8	92.9	79.2	74.6	73.1
82.5°	121.8	64.0	56.4	53.3	53.3
85°	65.5	39.6	36.6	33.5	35.0
87.5°	22.8	16.8	16.8	15.2	16.8
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	21.68	23.17	22.04	23.48	23.80	16.83	18.32	17.19	18.63	18.95
	3H	23.57	24.90	23.94	25.23	25.59	18.46	19.79	18.83	20.12	20.48
	4H	24.32	25.58	24.72	25.93	26.31	19.09	20.35	19.49	20.70	21.08
	6H	24.89	26.05	25.30	26.41	26.81	19.58	20.74	19.99	21.11	21.50
	8H	25.06	26.16	25.49	26.55	26.95	19.75	20.86	20.18	21.25	21.65
	12H	25.16	26.21	25.59	26.59	27.02	19.88	20.93	20.31	21.32	21.74
4H	2H	21.72	22.98	22.12	23.33	23.71	17.56	18.81	17.96	19.16	19.54
	3H	23.74	24.79	24.15	25.19	25.59	19.38	20.42	19.79	20.82	21.22
	4H	24.56	25.50	24.99	25.91	26.35	20.12	21.06	20.56	21.48	21.92
	6H	25.24	26.06	25.70	26.50	26.96	20.73	21.55	21.19	21.99	22.45
	8H	25.47	26.24	25.94	26.68	27.15	20.95	21.71	21.41	22.16	22.62
	12H	25.62	26.31	26.11	26.78	27.26	21.11	21.80	21.60	22.28	22.75
8H	4H	24.58	25.35	25.05	25.79	26.26	20.51	21.27	20.97	21.71	22.18
	6H	25.31	25.94	25.81	26.43	26.91	21.24	21.87	21.73	22.36	22.84
	8H	25.58	26.15	26.10	26.66	27.15	21.52	22.09	22.04	22.60	23.09
	12H	25.79	26.29	26.30	26.78	27.35	21.77	22.27	22.28	22.76	23.32
12H	4H	24.57	25.25	25.05	25.73	26.20	20.56	21.24	21.04	21.72	22.19
	6H	25.30	25.86	25.81	26.37	26.86	21.32	21.88	21.83	22.39	22.88
	8H	25.60	26.10	26.11	26.59	27.16	21.66	22.16	22.17	22.66	23.22