

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: P1055580

Luminaire Tested: S123R3DR-S1165D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055580
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-S1165D835-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

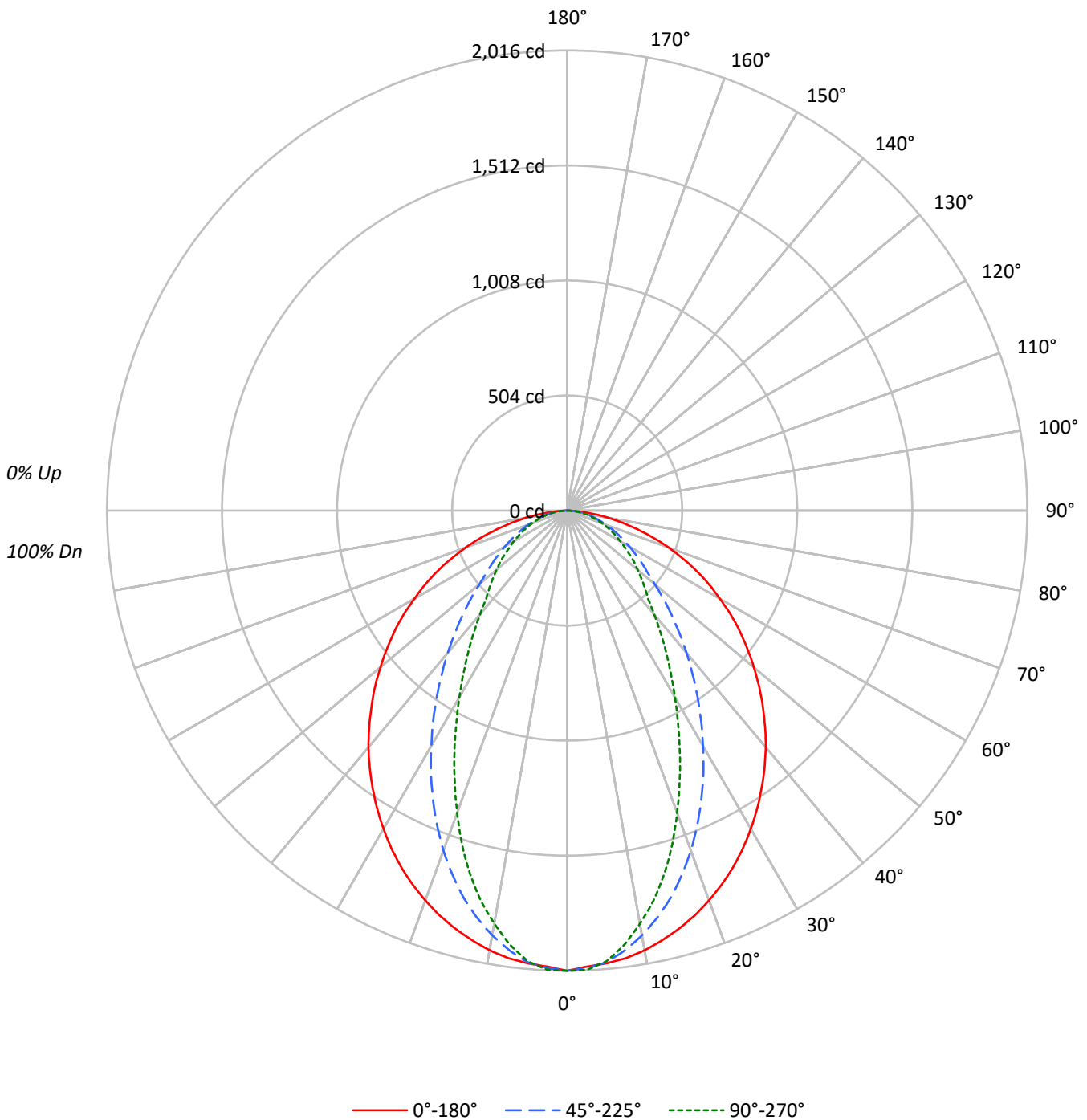
Lumens per Lamp: N/A
Luminaire Lumens: 3536.4 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	24311	24311	24311
5°	24094	24038	23983
10°	23947	23134	22506
15°	23662	21912	20556
20°	23316	20337	18073
25°	22911	18517	15548
30°	22403	16565	13143
35°	21864	14650	11099
40°	21315	12794	9328
45°	20675	11032	8228
50°	20028	9391	7553
55°	19433	8370	6974
60°	18620	7564	6510
65°	17856	6927	6111
70°	16642	6380	5742
75°	14892	5902	5408
80°	12775	5443	5027
85°	8978	5008	4800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 20675 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.9	5.3
10°-20°	494.5	14.0
20°-30°	651.4	18.4
30°-40°	661.2	18.7
40°-50°	574.7	16.3
50°-60°	450.3	12.7
60°-70°	305.9	8.7
70°-80°	165.8	4.7
80°-90°	45.6	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°	1332.9	37.7
0°-40°	1994.1	56.4
0°-60°	3019.1	85.4
0°-90°	3536.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3536.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2016	2016	2016	2016	2016	
5°	1991	2015	1986	1968	1982	189
15°	1896	1869	1756	1670	1647	534
25°	1722	1618	1392	1219	1169	793
35°	1486	1309	995	805	754	929
45°	1213	973	647	499	483	936
55°	924	642	398	339	332	825
65°	626	347	243	217	214	618
75°	320	160	127	118	116	341
85°	65	39	36	33	35	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2016.4	2016.4	2016.4	2016.4	2016.4
2.5°	1999.8	2025.4	2005.8	2007.4	2013.4
5°	1990.8	2014.9	1986.2	1968.1	1981.7
7.5°	1977.2	1995.3	1942.5	1913.8	1918.4
10°	1956.1	1962.1	1889.7	1844.5	1838.4
12.5°	1927.4	1916.9	1826.4	1760.0	1749.5
15°	1895.7	1868.6	1755.5	1669.5	1646.9
17.5°	1859.6	1814.3	1672.5	1567.0	1532.3
20°	1817.3	1754.0	1585.1	1450.8	1408.6
22.5°	1772.1	1690.6	1490.1	1331.7	1288.0
25°	1722.3	1618.2	1392.0	1218.6	1168.8
27.5°	1668.0	1545.9	1292.5	1107.0	1051.2
30°	1609.2	1470.4	1189.9	998.4	944.1
32.5°	1548.9	1390.5	1091.9	897.4	844.6
35°	1485.5	1309.1	995.4	805.4	754.1
37.5°	1420.7	1226.1	901.9	717.9	669.6
40°	1354.3	1141.7	812.9	636.4	592.7
42.5°	1283.4	1057.2	726.9	559.5	526.3
45°	1212.6	972.8	647.0	499.2	482.6
47.5°	1141.7	886.8	571.6	457.0	441.9
50°	1067.8	803.8	500.7	417.8	402.7
52.5°	995.4	722.4	441.9	380.1	369.5
55°	924.5	642.5	398.2	339.3	331.8
57.5°	850.6	564.0	354.4	307.7	298.6
60°	772.2	488.6	313.7	274.5	270.0
62.5°	701.3	417.8	277.5	245.8	241.3
65°	625.9	346.9	242.8	217.2	214.2
67.5°	549.0	288.1	211.1	190.0	188.5
70°	472.1	242.8	181.0	164.4	162.9
72.5°	396.6	200.6	152.3	141.8	138.7
75°	319.7	159.9	126.7	117.6	116.1
77.5°	250.4	123.7	101.0	95.0	93.5
80°	184.0	92.0	78.4	73.9	72.4
82.5°	120.7	63.3	55.8	52.8	52.8
85°	64.9	39.2	36.2	33.2	34.7
87.5°	22.6	16.6	16.6	15.1	16.6
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	21.64	23.14	22.01	23.45	23.76	16.79	18.29	17.16	18.60	18.91
	3H	23.53	24.87	23.91	25.20	25.56	18.42	19.76	18.80	20.09	20.45
	4H	24.29	25.54	24.69	25.89	26.27	19.06	20.31	19.46	20.66	21.04
	6H	24.85	26.01	25.26	26.38	26.77	19.55	20.71	19.96	21.07	21.47
	8H	25.02	26.13	25.45	26.52	26.92	19.72	20.82	20.14	21.21	21.61
	12H	25.12	26.18	25.55	26.56	26.99	19.84	20.90	20.27	21.28	21.71
4H	2H	21.69	22.95	22.09	23.30	23.67	17.52	18.78	17.92	19.13	19.51
	3H	23.71	24.75	24.12	25.15	25.55	19.34	20.39	19.75	20.79	21.19
	4H	24.52	25.46	24.96	25.88	26.32	20.09	21.03	20.52	21.44	21.88
	6H	25.21	26.03	25.67	26.47	26.93	20.70	21.52	21.16	21.96	22.42
	8H	25.44	26.20	25.90	26.65	27.11	20.91	21.68	21.38	22.12	22.59
	12H	25.59	26.27	26.07	26.75	27.22	21.08	21.76	21.56	22.24	22.71
8H	4H	24.55	25.31	25.01	25.76	26.23	20.47	21.24	20.94	21.68	22.15
	6H	25.28	25.91	25.78	26.40	26.88	21.20	21.83	21.70	22.32	22.80
	8H	25.55	26.11	26.06	26.62	27.11	21.49	22.05	22.00	22.56	23.05
	12H	25.76	26.26	26.27	26.75	27.31	21.73	22.23	22.24	22.73	23.29
12H	4H	24.53	25.22	25.02	25.70	26.17	20.53	21.21	21.01	21.69	22.16
	6H	25.26	25.83	25.78	26.34	26.83	21.28	21.85	21.80	22.36	22.85
	8H	25.57	26.07	26.08	26.56	27.13	21.63	22.13	22.14	22.62	23.19