

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: P1055367

Luminaire Tested: S122R3DR-H675D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055367
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H675D840-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

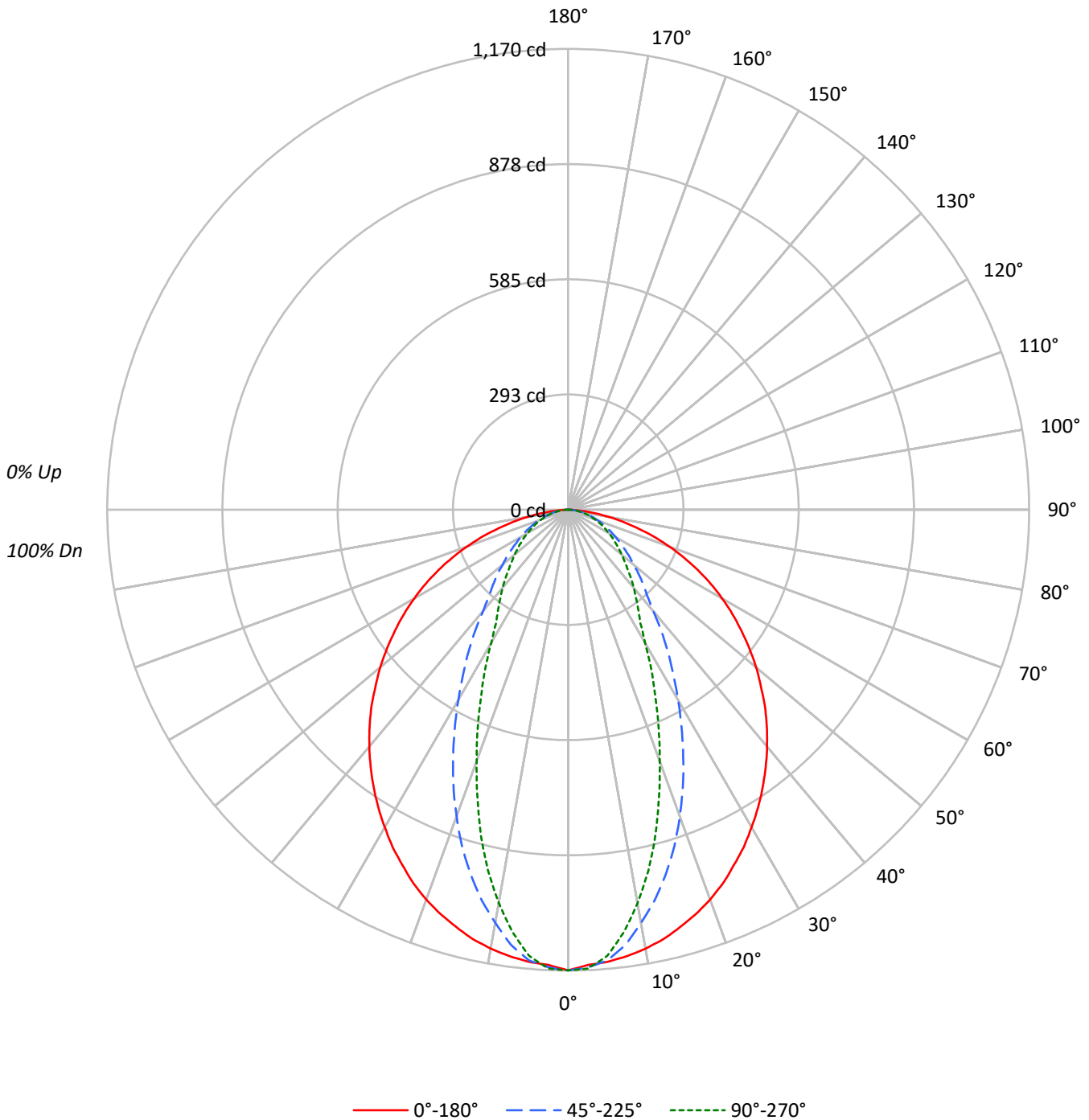
Lumens per Lamp: N/A
Luminaire Lumens: 1769.1 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
Input Voltage (V): 120
Input Current (A_{in}): 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	108	104	101	97	100	97	94	96	94	92	92	91	89					87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68					66				
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60					58				
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54					52				
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48					46				
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40					38				
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34					32				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22159	22159	22159
5°	21909	21835	21629
10°	21768	20489	19509
15°	21521	18779	16784
20°	21234	16700	13704
25°	20810	14432	10937
30°	20367	12194	8536
35°	19904	10200	7170
40°	19422	8273	6386
45°	18919	7232	5712
50°	18360	6399	5217
55°	17734	5780	4846
60°	17119	5263	4520
65°	16309	4824	4254
70°	15111	4498	4011
75°	13388	4077	3792
80°	11412	3840	3524
85°	7869	3391	3195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18919 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.2	6.1
10°-20°	270.6	15.3
20°-30°	333.4	18.8
30°-40°	319.9	18.1
40°-50°	275.9	15.6
50°-60°	214.1	12.1
60°-70°	146.6	8.3
70°-80°	79.6	4.5
80°-90°	21.8	1.2
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°	711.2	40.2
0°-40°	1031.1	58.3
0°-60°	1521.1	86.0
0°-90°	1769.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1769.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1170	1170	1170	1170	1170	
5°	1152	1169	1148	1133	1137	109
15°	1097	1064	957	879	856	309
25°	996	889	690	563	523	459
35°	861	683	441	329	310	538
45°	706	475	270	223	213	544
55°	537	286	175	152	147	481
65°	364	156	108	98	95	359
75°	183	71	56	53	52	196
85°	36	18	16	16	15	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1169.6	1169.6	1169.6	1169.6	1169.6
2.5°	1156.9	1176.4	1162.8	1162.8	1165.7
5°	1152.0	1168.6	1148.1	1133.4	1137.3
7.5°	1143.2	1154.9	1113.9	1082.6	1081.6
10°	1131.5	1132.4	1065.0	1023.9	1014.1
12.5°	1116.8	1101.1	1015.1	953.5	938.8
15°	1097.2	1064.0	957.4	879.2	855.7
17.5°	1076.7	1025.8	895.8	798.0	765.7
20°	1053.2	979.9	828.3	716.8	679.7
22.5°	1026.8	935.9	760.8	638.6	599.5
25°	995.5	888.9	690.4	563.3	523.2
27.5°	965.2	841.0	622.9	496.8	455.7
30°	931.0	789.2	557.4	433.2	390.2
32.5°	896.8	736.4	496.8	372.6	340.3
35°	860.6	682.6	441.0	328.6	310.0
37.5°	823.4	629.8	388.2	299.2	282.6
40°	785.3	577.0	334.5	270.9	258.2
42.5°	746.2	525.1	297.3	247.4	235.7
45°	706.1	475.3	269.9	223.0	213.2
47.5°	663.0	425.4	243.5	202.4	193.6
50°	622.9	377.5	217.1	183.8	177.0
52.5°	579.9	330.5	195.6	167.2	161.4
55°	536.9	285.6	175.0	151.6	146.7
57.5°	494.8	242.5	155.5	136.9	133.0
60°	451.8	208.3	138.9	123.2	119.3
62.5°	407.8	180.9	123.2	110.5	106.6
65°	363.8	155.5	107.6	97.8	94.9
67.5°	317.8	131.0	93.9	86.1	84.1
70°	272.8	109.5	81.2	74.3	72.4
72.5°	228.8	89.0	68.5	63.6	61.6
75°	182.9	71.4	55.7	52.8	51.8
77.5°	142.8	55.7	45.0	43.0	42.1
80°	104.6	41.1	35.2	33.2	32.3
82.5°	69.4	28.4	25.4	24.4	23.5
85°	36.2	17.6	15.6	15.6	14.7
87.5°	11.7	7.8	7.8	7.8	6.8
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	20.37	21.84	20.74	22.15	22.47	15.18	16.65	15.54	16.96	17.27
	3H	22.70	24.02	23.08	24.35	24.71	16.83	18.14	17.20	18.47	18.83
	4H	23.60	24.83	24.00	25.18	25.56	17.46	18.70	17.86	19.05	19.42
	6H	24.26	25.40	24.67	25.77	26.16	17.96	19.10	18.37	19.46	19.86
	8H	24.47	25.55	24.90	25.94	26.34	18.13	19.21	18.55	19.60	20.00
	12H	24.58	25.62	25.01	26.00	26.43	18.24	19.28	18.67	19.66	20.09
4H	2H	20.39	21.62	20.79	21.97	22.35	15.89	17.13	16.29	17.48	17.86
	3H	22.80	23.83	23.21	24.23	24.63	17.74	18.77	18.15	19.17	19.57
	4H	23.73	24.65	24.16	25.07	25.51	18.49	19.41	18.92	19.83	20.27
	6H	24.51	25.31	24.97	25.75	26.22	19.10	19.91	19.56	20.35	20.81
	8H	24.78	25.53	25.24	25.97	26.44	19.32	20.07	19.79	20.51	20.98
	12H	24.96	25.62	25.44	26.10	26.58	19.48	20.15	19.97	20.63	21.10
8H	4H	23.72	24.47	24.19	24.92	25.39	18.87	19.62	19.33	20.06	20.53
	6H	24.53	25.15	25.03	25.64	26.12	19.61	20.22	20.10	20.72	21.19
	8H	24.83	25.39	25.35	25.90	26.39	19.90	20.45	20.42	20.97	21.45
	12H	25.06	25.55	25.57	26.05	26.61	20.14	20.63	20.66	21.13	21.69
12H	4H	23.70	24.37	24.19	24.85	25.32	18.93	19.59	19.41	20.07	20.54
	6H	24.51	25.06	25.02	25.57	26.06	19.69	20.25	20.21	20.76	21.25
	8H	24.84	25.33	25.35	25.82	26.39	20.05	20.54	20.56	21.03	21.59