

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: P1055796

Luminaire Tested: S123R3DR-H775D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055796
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-H775D835-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

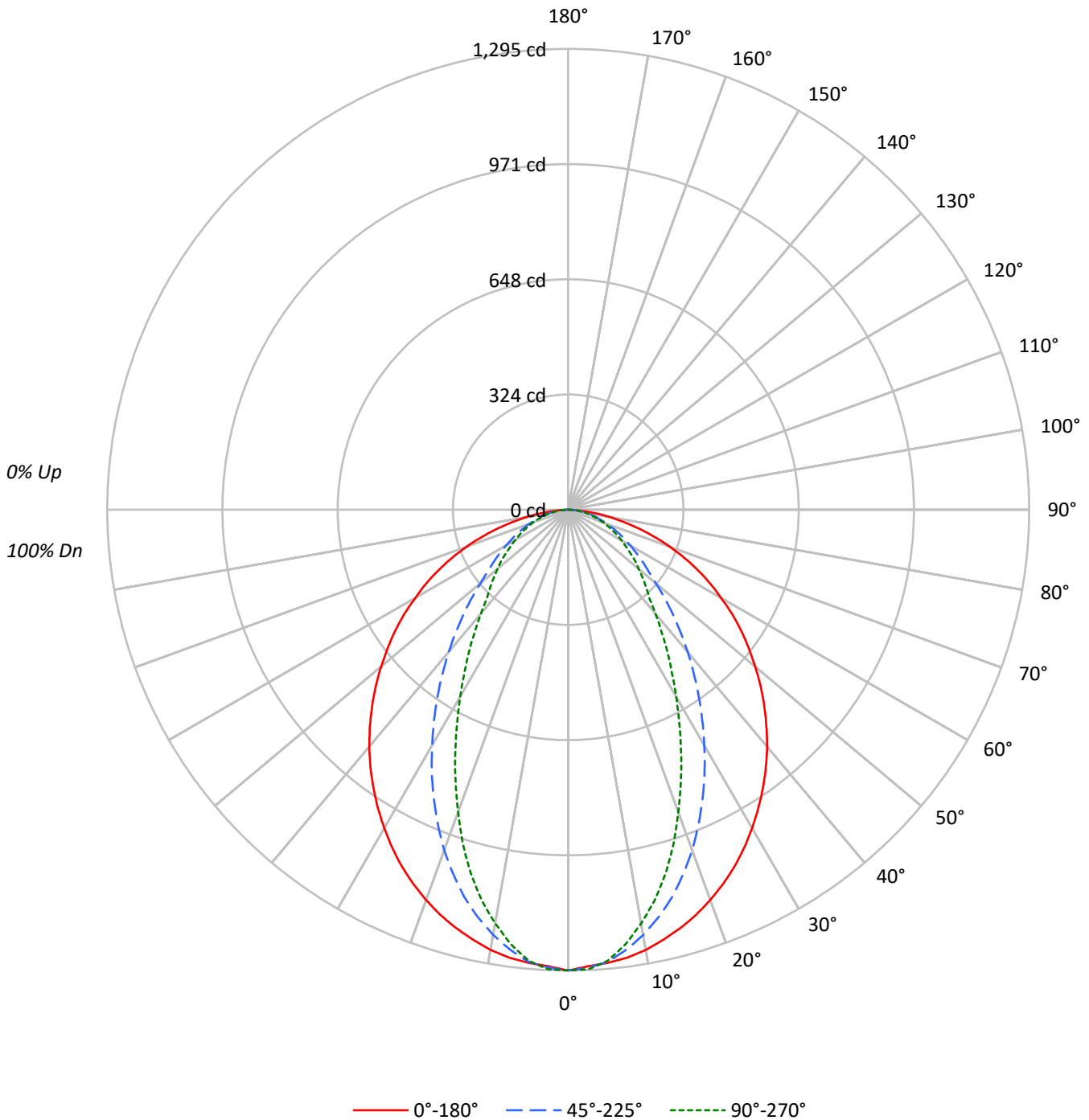
Lumens per Lamp: N/A
Luminaire Lumens: 2270.7 lumens
Efficiency: N/A
Efficacy: 95.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15609	15609	15609
5°	15469	15434	15399
10°	15376	14855	14451
15°	15193	14069	13199
20°	14972	13059	11605
25°	14712	11890	9984
30°	14385	10636	8439
35°	14038	9406	7127
40°	13686	8216	5990
45°	13275	7083	5284
50°	12859	6030	4850
55°	12477	5373	4477
60°	11955	4856	4179
65°	11465	4447	3923
70°	10684	4096	3687
75°	9563	3787	3475
80°	8200	3499	3228
85°	5755	3209	3085

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13275 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.0	5.3
10°-20°	317.5	14.0
20°-30°	418.3	18.4
30°-40°	424.5	18.7
40°-50°	369.0	16.3
50°-60°	289.1	12.7
60°-70°	196.4	8.7
70°-80°	106.4	4.7
80°-90°	29.3	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°	855.8	37.7
0°-40°	1280.4	56.4
0°-60°	1938.5	85.4
0°-90°	2270.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2270.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1295	1295	1295	1295	1295	
5°	1278	1294	1275	1264	1272	121
15°	1217	1200	1127	1072	1058	343
25°	1106	1039	894	782	750	509
35°	954	840	639	517	484	597
45°	779	625	415	320	310	601
55°	594	412	256	218	213	530
65°	402	223	156	139	138	397
75°	205	103	81	76	75	219
85°	42	25	23	21	22	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1294.7	1294.7	1294.7	1294.7	1294.7
2.5°	1284.1	1300.5	1287.9	1288.9	1292.8
5°	1278.2	1293.7	1275.3	1263.7	1272.4
7.5°	1269.5	1281.2	1247.3	1228.9	1231.8
10°	1256.0	1259.8	1213.4	1184.3	1180.4
12.5°	1237.6	1230.8	1172.7	1130.1	1123.3
15°	1217.2	1199.8	1127.2	1072.0	1057.5
17.5°	1194.0	1164.9	1073.9	1006.1	983.9
20°	1166.9	1126.2	1017.8	931.6	904.5
22.5°	1137.8	1085.5	956.7	855.1	827.0
25°	1105.9	1039.1	893.8	782.4	750.5
27.5°	1071.0	992.6	829.9	710.8	675.0
30°	1033.3	944.2	764.0	641.1	606.2
32.5°	994.5	892.8	701.1	576.2	542.3
35°	953.8	840.5	639.1	517.1	484.2
37.5°	912.2	787.3	579.1	460.9	430.0
40°	869.6	733.1	522.0	408.7	380.6
42.5°	824.1	678.8	466.8	359.3	338.0
45°	778.6	624.6	415.4	320.5	309.9
47.5°	733.1	569.4	367.0	293.4	283.7
50°	685.6	516.1	321.5	268.2	258.6
52.5°	639.1	463.8	283.7	244.0	237.3
55°	593.6	412.5	255.6	217.9	213.0
57.5°	546.2	362.2	227.6	197.5	191.7
60°	495.8	313.8	201.4	176.2	173.3
62.5°	450.3	268.2	178.2	157.8	154.9
65°	401.9	222.7	155.9	139.4	137.5
67.5°	352.5	185.0	135.6	122.0	121.0
70°	303.1	155.9	116.2	105.6	104.6
72.5°	254.7	128.8	97.8	91.0	89.1
75°	205.3	102.6	81.3	75.5	74.6
77.5°	160.7	79.4	64.9	61.0	60.0
80°	118.1	59.1	50.4	47.5	46.5
82.5°	77.5	40.7	35.8	33.9	33.9
85°	41.6	25.2	23.2	21.3	22.3
87.5°	14.5	10.7	10.7	9.7	10.7
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	20.11	21.60	20.47	21.91	22.23	15.25	16.74	15.62	17.06	17.37
	3H	21.99	23.33	22.37	23.66	24.02	16.88	18.22	17.26	18.55	18.91
	4H	22.75	24.00	23.15	24.35	24.73	17.52	18.77	17.92	19.12	19.50
	6H	23.31	24.47	23.73	24.84	25.23	18.01	19.17	18.42	19.53	19.93
	8H	23.49	24.59	23.91	24.98	25.38	18.18	19.28	18.60	19.67	20.07
	12H	23.58	24.64	24.01	25.02	25.45	18.30	19.36	18.73	19.74	20.17
4H	2H	20.15	21.41	20.55	21.76	22.14	15.98	17.24	16.38	17.59	17.96
	3H	22.17	23.21	22.58	23.61	24.01	17.80	18.85	18.21	19.25	19.65
	4H	22.99	23.93	23.42	24.34	24.78	18.55	19.49	18.98	19.90	20.34
	6H	23.67	24.49	24.13	24.93	25.39	19.16	19.98	19.62	20.42	20.88
	8H	23.90	24.66	24.36	25.11	25.57	19.37	20.14	19.84	20.58	21.05
	12H	24.05	24.73	24.53	25.21	25.68	19.54	20.22	20.02	20.70	21.17
8H	4H	23.01	23.77	23.47	24.22	24.69	18.93	19.70	19.40	20.14	20.61
	6H	23.74	24.37	24.24	24.86	25.34	19.66	20.29	20.16	20.78	21.26
	8H	24.01	24.57	24.52	25.08	25.57	19.95	20.52	20.46	21.03	21.51
	12H	24.22	24.72	24.73	25.21	25.78	20.19	20.69	20.70	21.19	21.75
12H	4H	23.00	23.68	23.48	24.16	24.63	18.99	19.67	19.47	20.15	20.62
	6H	23.72	24.29	24.24	24.80	25.29	19.74	20.31	20.26	20.82	21.31
	8H	24.03	24.53	24.54	25.02	25.59	20.09	20.59	20.60	21.08	21.65