

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931010

Luminaire Tested: DFN2DS-SQ3F0-090DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931010
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-090DS950-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

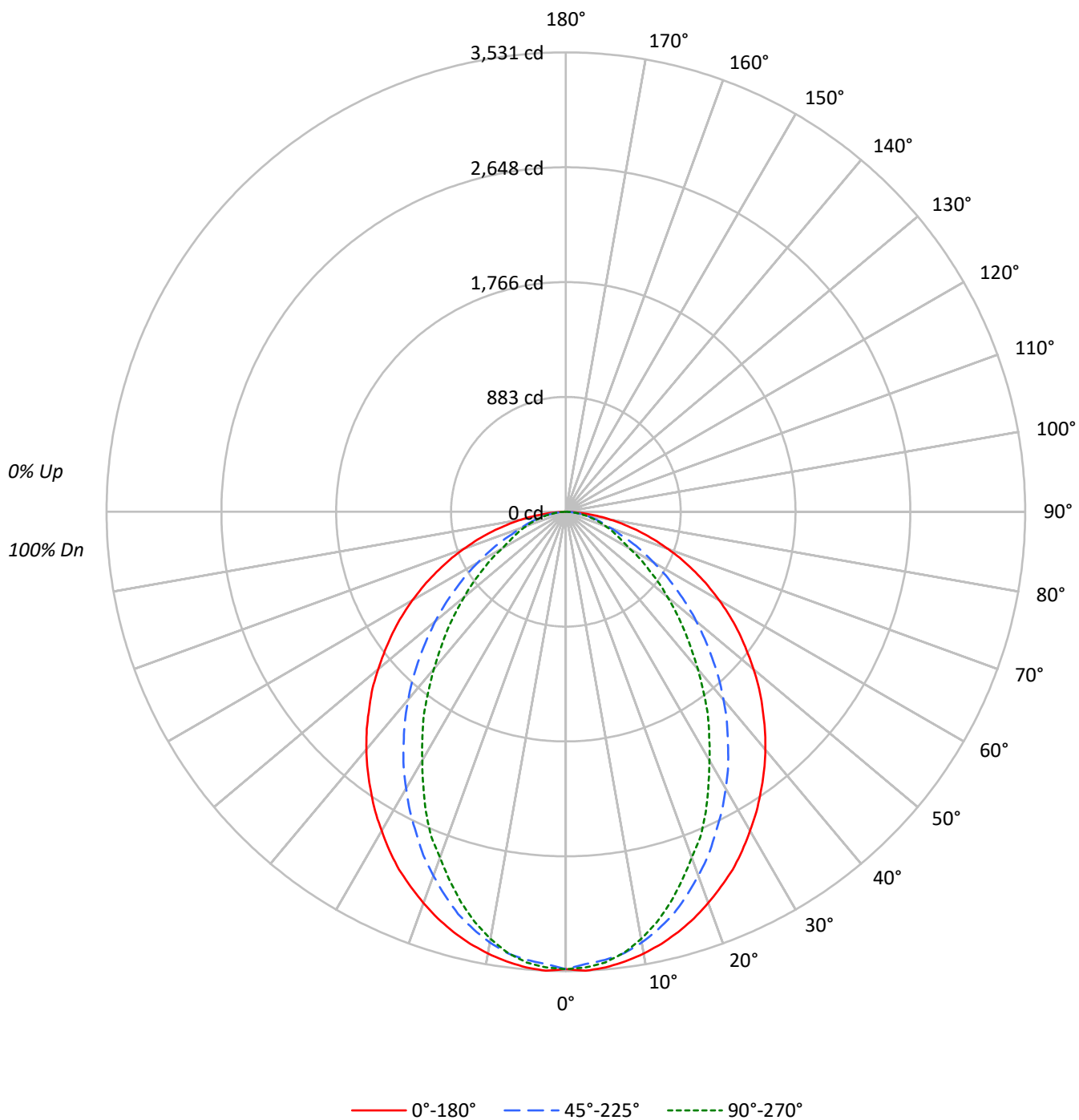
Lumens per Lamp: N/A
Luminaire Lumens: 7229.2 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4028	4028	4028
5°	4043	3977	3999
10°	4012	3912	3879
15°	3966	3796	3687
20°	3902	3630	3448
25°	3837	3443	3217
30°	3746	3249	2921
35°	3658	3039	2661
40°	3569	2821	2360
45°	3464	2577	2087
50°	3357	2331	1821
55°	3247	2065	1563
60°	3120	1786	1298
65°	2976	1501	1181
70°	2803	1236	1086
75°	2591	1127	1015
80°	2287	1006	924
85°	1796	794	794

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3464 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	4.6
10°-20°	904.4	12.5
20°-30°	1269.7	17.6
30°-40°	1384.1	19.1
40°-50°	1272.1	17.6
50°-60°	999.0	13.8
60°-70°	650.3	9.0
70°-80°	334.7	4.6
80°-90°	85.5	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°	2503.5	34.6
0°-40°	3887.6	53.8
0°-60°	6158.8	85.2
0°-90°	7229.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7229.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3515	3515	3515	3515	3515	
5°	3515	3499	3458	3486	3477	333
15°	3343	3308	3200	3140	3108	942
25°	3035	2933	2723	2593	2545	1396
35°	2615	2453	2173	1972	1902	1637
45°	2138	1924	1591	1364	1288	1651
55°	1625	1377	1034	843	783	1452
65°	1098	840	554	446	436	1088
75°	585	362	254	232	229	619
85°	137	70	60	60	60	164
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3515.1	3515.1	3515.1	3515.1	3515.1
2.5°	3531.0	3515.1	3480.0	3512.1	3505.7
5°	3515.1	3499.2	3457.8	3486.4	3476.9
7.5°	3486.4	3467.5	3423.0	3435.5	3419.6
10°	3448.3	3426.0	3362.6	3352.8	3333.9
12.5°	3400.7	3372.0	3286.0	3267.1	3231.9
15°	3343.3	3308.3	3200.2	3139.8	3108.1
17.5°	3276.5	3225.6	3091.9	3022.0	2971.1
20°	3200.2	3136.5	2977.4	2898.1	2827.9
22.5°	3117.6	3044.3	2859.7	2751.7	2704.1
25°	3034.9	2932.9	2723.0	2592.7	2544.8
27.5°	2936.3	2827.9	2595.7	2446.2	2373.0
30°	2831.3	2710.2	2455.7	2293.7	2207.6
32.5°	2729.3	2582.9	2322.3	2131.4	2051.7
35°	2615.0	2452.7	2172.8	1972.4	1902.2
37.5°	2503.6	2328.5	2032.8	1813.1	1733.8
40°	2385.8	2195.1	1886.3	1660.6	1577.9
42.5°	2265.0	2061.5	1740.1	1504.6	1425.2
45°	2137.8	1924.5	1590.6	1364.5	1288.2
47.5°	2016.9	1791.2	1447.6	1221.4	1151.6
50°	1883.3	1657.4	1307.5	1087.8	1021.3
52.5°	1752.7	1514.1	1173.9	963.9	903.5
55°	1625.4	1377.3	1033.7	843.1	782.6
57.5°	1495.2	1240.7	909.9	731.7	680.8
60°	1361.5	1107.0	779.3	617.3	566.3
62.5°	1231.2	976.8	667.9	515.4	490.1
65°	1097.5	839.7	553.5	445.5	435.7
67.5°	970.3	712.4	445.5	391.1	381.7
70°	836.7	588.6	368.9	337.2	324.3
72.5°	709.4	473.8	308.4	283.1	276.8
75°	585.2	362.5	254.5	232.2	229.2
77.5°	461.3	257.5	200.4	187.7	181.3
80°	346.6	184.7	152.5	140.0	140.0
82.5°	241.6	124.2	105.0	98.6	98.6
85°	136.6	69.8	60.4	60.4	60.4
87.5°	50.9	25.3	25.3	22.3	22.3
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	16.08	17.60	16.44	17.91	18.23	12.04	13.56	12.40	13.87	14.19
	3H	17.84	19.21	18.22	19.53	19.90	13.30	14.67	13.68	14.99	15.36
	4H	18.51	19.79	18.91	20.14	20.51	13.80	15.08	14.20	15.43	15.81
	6H	19.00	20.18	19.41	20.55	20.94	14.18	15.37	14.60	15.73	16.12
	8H	19.16	20.29	19.59	20.68	21.08	14.31	15.43	14.73	15.82	16.23
	12H	19.26	20.34	19.69	20.72	21.15	14.39	15.47	14.82	15.85	16.28
4H	2H	16.18	17.46	16.58	17.81	18.19	12.73	14.01	13.13	14.36	14.74
	3H	18.11	19.18	18.52	19.58	19.98	14.17	15.24	14.58	15.64	16.04
	4H	18.86	19.82	19.29	20.23	20.67	14.77	15.73	15.21	16.15	16.58
	6H	19.45	20.29	19.91	20.73	21.19	15.26	16.09	15.72	16.54	17.00
	8H	19.67	20.45	20.13	20.89	21.36	15.42	16.20	15.89	16.65	17.11
	12H	19.82	20.52	20.30	20.99	21.47	15.54	16.24	16.02	16.71	17.18
8H	4H	18.89	19.66	19.35	20.11	20.57	15.13	15.90	15.59	16.35	16.82
	6H	19.52	20.17	20.02	20.66	21.13	15.71	16.36	16.21	16.85	17.32
	8H	19.77	20.35	20.29	20.86	21.35	15.94	16.51	16.45	17.02	17.51
	12H	19.98	20.49	20.49	20.98	21.54	16.11	16.62	16.62	17.12	17.68
12H	4H	18.87	19.56	19.35	20.04	20.51	15.17	15.87	15.65	16.34	16.81
	6H	19.50	20.08	20.02	20.59	21.08	15.78	16.35	16.29	16.86	17.35
	8H	19.79	20.30	20.30	20.79	21.36	16.05	16.56	16.56	17.05	17.62