

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: P931151

Luminaire Tested: DFN2DS-SQ4F0-100DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931151
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-100DS940-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

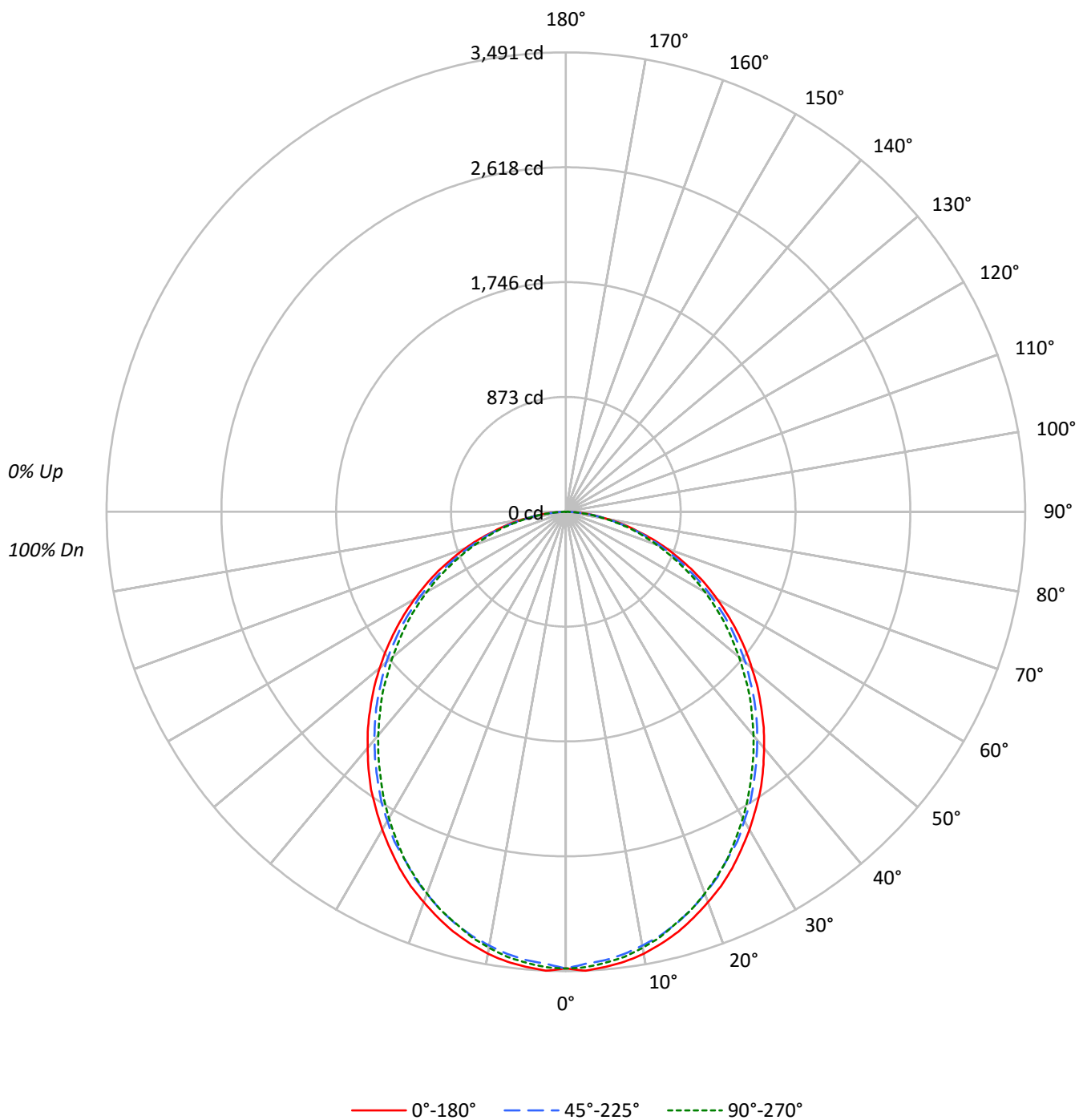
Lumens per Lamp: N/A
Luminaire Lumens: 8830.8 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 100.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931151

CATALOG NUMBER: DFN2DS-SQ4F0-100DS940-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931151

CATALOG NUMBER: DFN2DS-SQ4F0-100DS940-FLL

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2435	2435	2435
5°	2445	2410	2424
10°	2430	2385	2397
15°	2400	2354	2352
20°	2357	2308	2305
25°	2315	2251	2251
30°	2261	2198	2180
35°	2210	2136	2104
40°	2146	2072	2033
45°	2083	2010	1961
50°	2015	1945	1876
55°	1944	1870	1801
60°	1864	1780	1714
65°	1779	1690	1613
70°	1671	1582	1507
75°	1520	1456	1421
80°	1349	1308	1241
85°	1101	1049	941

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2083 cd/sqm

TEST NUMBER: P931151

CATALOG NUMBER: DFN2DS-SQ4F0-100DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.7	3.7
10°-20°	919.1	10.4
20°-30°	1350.8	15.3
30°-40°	1568.8	17.8
40°-50°	1566.9	17.7
50°-60°	1366.3	15.5
60°-70°	1010.0	11.4
70°-80°	571.4	6.5
80°-90°	150.8	1.7
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°	2596.6	29.4
0°-40°	4165.4	47.2
0°-60°	7098.5	80.4
0°-90°	8830.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8830.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3471	3471	3471	3471	3471	
5°	3471	3458	3421	3448	3441	329
15°	3304	3284	3241	3254	3238	931
25°	2990	2964	2907	2914	2907	1376
35°	2580	2547	2493	2473	2456	1611
45°	2099	2076	2026	1989	1976	1620
55°	1589	1569	1529	1489	1472	1420
65°	1072	1051	1018	988	971	1059
75°	560	554	537	517	524	598
85°	137	134	130	120	117	161
90°	0	0	0	0	0	

TEST NUMBER: P931151

CATALOG NUMBER: DFN2DS-SQ4F0-100DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3470.9	3470.9	3470.9	3470.9	3470.9
2.5°	3491.0	3474.3	3437.5	3470.9	3464.4
5°	3470.9	3457.7	3420.9	3447.5	3441.1
7.5°	3447.5	3427.6	3390.8	3417.7	3411.0
10°	3411.0	3387.6	3347.6	3374.2	3364.3
12.5°	3360.7	3340.9	3300.8	3317.5	3310.7
15°	3304.1	3284.3	3240.6	3254.1	3237.5
17.5°	3233.9	3214.1	3170.5	3187.2	3170.5
20°	3157.1	3137.3	3090.5	3100.4	3087.3
22.5°	3080.6	3050.6	3006.9	3006.9	3000.2
25°	2990.3	2963.8	2907.1	2913.5	2907.1
27.5°	2890.1	2866.7	2823.5	2813.6	2797.0
30°	2790.3	2763.3	2713.4	2703.5	2690.0
32.5°	2683.3	2663.5	2610.0	2589.8	2576.4
35°	2579.9	2546.7	2493.1	2473.0	2456.3
37.5°	2463.1	2432.9	2379.5	2356.1	2339.4
40°	2343.0	2316.1	2262.6	2232.9	2219.5
42.5°	2226.2	2199.2	2146.2	2112.5	2092.7
45°	2099.4	2076.0	2025.7	1989.2	1975.9
47.5°	1975.9	1952.5	1899.0	1862.1	1842.3
50°	1845.5	1828.9	1782.1	1735.4	1718.8
52.5°	1718.8	1695.4	1652.2	1615.4	1592.0
55°	1588.8	1568.7	1528.6	1488.6	1472.0
57.5°	1458.5	1441.8	1398.3	1358.3	1344.9
60°	1328.2	1315.1	1268.3	1231.5	1221.6
62.5°	1201.4	1178.1	1144.8	1111.5	1098.1
65°	1071.5	1051.3	1018.0	987.9	971.3
67.5°	938.0	921.0	891.3	867.9	854.4
70°	814.4	800.9	770.9	747.5	734.4
72.5°	687.6	674.2	657.6	634.2	624.2
75°	560.5	554.2	537.2	517.4	524.0
77.5°	447.2	433.8	427.0	417.1	407.2
80°	333.9	330.4	323.6	313.7	307.0
82.5°	227.0	227.0	223.8	210.3	210.3
85°	136.7	133.5	130.3	120.1	116.9
87.5°	60.2	53.4	46.7	36.8	33.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931151

CATALOG NUMBER: DFN2DS-SQ4F0-100DS940-FLL

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	14.37	15.99	14.74	16.30	16.61	13.93	15.54	14.30	15.86	16.17
	3H	16.13	17.58	16.50	17.91	18.27	15.63	17.09	16.01	17.42	17.78
	4H	16.77	18.14	17.17	18.49	18.86	16.28	17.65	16.68	17.99	18.37
	6H	17.24	18.51	17.65	18.87	19.26	16.74	18.01	17.15	18.37	18.76
	8H	17.38	18.59	17.81	18.98	19.38	16.88	18.09	17.31	18.48	18.88
	12H	17.47	18.63	17.90	19.02	19.44	16.96	18.12	17.39	18.50	18.93
4H	2H	14.94	16.30	15.33	16.65	17.03	14.58	15.95	14.98	16.30	16.68
	3H	16.91	18.06	17.32	18.45	18.85	16.50	17.65	16.91	18.05	18.45
	4H	17.69	18.72	18.12	19.14	19.57	17.26	18.30	17.69	18.71	19.15
	6H	18.28	19.19	18.74	19.63	20.09	17.85	18.76	18.31	19.20	19.65
	8H	18.47	19.32	18.93	19.76	20.23	18.04	18.88	18.50	19.32	19.79
	12H	18.61	19.37	19.09	19.84	20.31	18.15	18.91	18.63	19.39	19.86
8H	4H	17.96	18.81	18.42	19.25	19.71	17.59	18.43	18.05	18.88	19.34
	6H	18.67	19.38	19.17	19.87	20.34	18.29	19.00	18.79	19.48	19.96
	8H	18.93	19.56	19.44	20.07	20.56	18.54	19.17	19.05	19.68	20.17
	12H	19.13	19.69	19.64	20.18	20.74	18.72	19.28	19.23	19.77	20.33
12H	4H	17.99	18.75	18.47	19.22	19.69	17.62	18.38	18.10	18.86	19.33
	6H	18.72	19.35	19.23	19.86	20.34	18.35	18.98	18.86	19.49	19.98
	8H	19.03	19.59	19.54	20.08	20.64	18.66	19.21	19.16	19.70	20.27