

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: P931099

Luminaire Tested: DFN2DS-SQ4F0-070DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931099
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-SQ4F0-070DS950-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

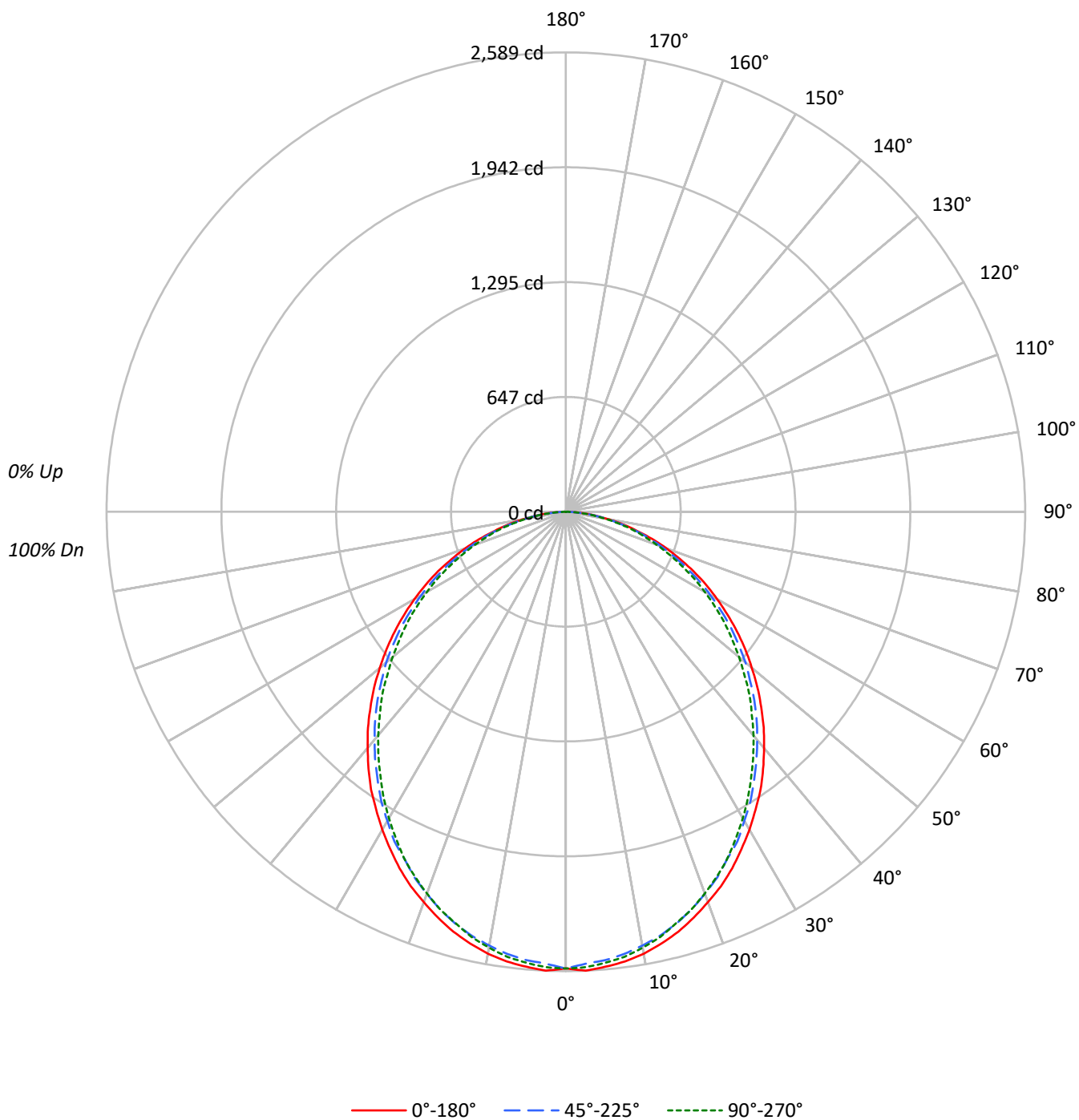
Lumens per Lamp: N/A
Luminaire Lumens: 6548.9 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 69.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931099

CATALOG NUMBER: DFN2DS-SQ4F0-070DS950-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931099

CATALOG NUMBER: DFN2DS-SQ4F0-070DS950-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°	1806	1806	1806
5°	1813	1787	1797
10°	1802	1769	1778
15°	1780	1746	1744
20°	1748	1711	1710
25°	1717	1669	1669
30°	1677	1630	1616
35°	1639	1584	1560
40°	1592	1537	1508
45°	1545	1491	1454
50°	1494	1443	1391
55°	1441	1387	1335
60°	1382	1320	1271
65°	1319	1254	1196
70°	1239	1173	1117
75°	1127	1080	1054
80°	1001	970	920
85°	816	779	698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1545 cd/sqm

TEST NUMBER: P931099

CATALOG NUMBER: DFN2DS-SQ4F0-070DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.3	3.7
10°-20°	681.6	10.4
20°-30°	1001.7	15.3
30°-40°	1163.4	17.8
40°-50°	1162.0	17.7
50°-60°	1013.2	15.5
60°-70°	749.0	11.4
70°-80°	423.8	6.5
80°-90°	111.9	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°	1925.6	29.4
0°-40°	3089.0	47.2
0°-60°	5264.2	80.4
0°-90°	6548.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6548.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2574	2574	2574	2574	2574	
5°	2574	2564	2537	2557	2552	244
15°	2450	2436	2403	2413	2401	690
25°	2218	2198	2156	2161	2156	1020
35°	1913	1889	1849	1834	1822	1195
45°	1557	1540	1502	1475	1465	1202
55°	1178	1163	1134	1104	1092	1053
65°	795	780	755	733	720	786
75°	416	411	398	384	389	444
85°	101	99	97	89	87	119
90°	0	0	0	0	0	



TEST NUMBER: P931099

CATALOG NUMBER: DFN2DS-SQ4F0-070DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2573.9	2573.9	2573.9	2573.9	2573.9
2.5°	2588.9	2576.5	2549.2	2573.9	2569.2
5°	2573.9	2564.3	2536.9	2556.6	2551.9
7.5°	2556.6	2541.9	2514.6	2534.6	2529.6
10°	2529.6	2512.2	2482.5	2502.3	2494.9
12.5°	2492.2	2477.6	2447.9	2460.2	2455.2
15°	2450.3	2435.5	2403.2	2413.2	2400.9
17.5°	2398.2	2383.6	2351.3	2363.6	2351.3
20°	2341.2	2326.6	2291.9	2299.3	2289.5
22.5°	2284.5	2262.2	2229.9	2229.9	2224.9
25°	2217.6	2197.9	2155.9	2160.6	2155.9
27.5°	2143.3	2126.0	2093.9	2086.6	2074.2
30°	2069.3	2049.2	2012.3	2004.9	1994.9
32.5°	1989.9	1975.2	1935.5	1920.6	1910.6
35°	1913.2	1888.6	1848.9	1834.0	1821.6
37.5°	1826.6	1804.3	1764.6	1747.3	1734.9
40°	1737.6	1717.6	1677.9	1655.9	1645.9
42.5°	1650.9	1631.0	1591.6	1566.6	1551.9
45°	1556.9	1539.6	1502.3	1475.2	1465.2
47.5°	1465.2	1447.9	1408.2	1380.9	1366.3
50°	1368.6	1356.3	1321.6	1287.0	1274.6
52.5°	1274.6	1257.3	1225.3	1198.0	1180.6
55°	1178.2	1163.3	1133.6	1103.9	1091.6
57.5°	1081.6	1069.3	1036.9	1007.3	997.4
60°	985.0	975.2	940.7	913.3	906.0
62.5°	890.9	873.7	849.0	824.3	814.3
65°	794.7	779.6	755.0	732.7	720.3
67.5°	695.6	683.0	660.9	643.6	633.6
70°	603.9	594.0	571.6	554.3	544.6
72.5°	509.9	500.0	487.6	470.3	463.0
75°	415.7	411.0	398.3	383.7	388.7
77.5°	331.7	321.7	316.7	309.3	302.0
80°	247.6	245.0	240.0	232.7	227.7
82.5°	168.3	168.3	165.9	156.0	156.0
85°	101.4	99.0	96.7	89.0	86.7
87.5°	44.6	39.7	34.7	27.3	24.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931099

CATALOG NUMBER: DFN2DS-SQ4F0-070DS950-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	13.34	14.95	13.70	15.26	15.58	12.89	14.50	13.26	14.82	15.13
	3H	15.09	16.54	15.46	16.87	17.23	14.60	16.05	14.97	16.38	16.74
	4H	15.73	17.10	16.13	17.45	17.83	15.24	16.61	15.64	16.95	17.33
	6H	16.20	17.47	16.61	17.84	18.23	15.70	16.97	16.11	17.33	17.72
	8H	16.35	17.56	16.77	17.94	18.34	15.84	17.05	16.27	17.44	17.84
	12H	16.44	17.60	16.86	17.98	18.41	15.92	17.08	16.35	17.47	17.89
4H	2H	13.90	15.27	14.30	15.61	15.99	13.54	14.91	13.94	15.26	15.64
	3H	15.87	17.02	16.28	17.42	17.82	15.47	16.61	15.87	17.01	17.41
	4H	16.65	17.68	17.08	18.10	18.53	16.22	17.26	16.66	17.67	18.11
	6H	17.25	18.15	17.70	18.59	19.05	16.81	17.72	17.27	18.16	18.61
	8H	17.43	18.28	17.90	18.72	19.19	17.00	17.84	17.46	18.29	18.75
	12H	17.57	18.33	18.05	18.80	19.27	17.11	17.87	17.59	18.35	18.82
8H	4H	16.92	17.77	17.38	18.21	18.68	16.55	17.39	17.01	17.84	18.30
	6H	17.64	18.34	18.13	18.83	19.30	17.25	17.96	17.75	18.45	18.92
	8H	17.90	18.53	18.41	19.03	19.52	17.50	18.13	18.01	18.64	19.13
	12H	18.10	18.65	18.60	19.14	19.70	17.68	18.24	18.19	18.73	19.29
12H	4H	16.95	17.71	17.43	18.18	18.65	16.58	17.34	17.06	17.82	18.29
	6H	17.68	18.31	18.19	18.82	19.31	17.31	17.94	17.82	18.45	18.94
	8H	18.00	18.55	18.50	19.04	19.60	17.62	18.18	18.12	18.67	19.23