

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: P931083

Luminaire Tested: DFN2DS-SQ4F0-070DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931083
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-SQ4F0-070DS830-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

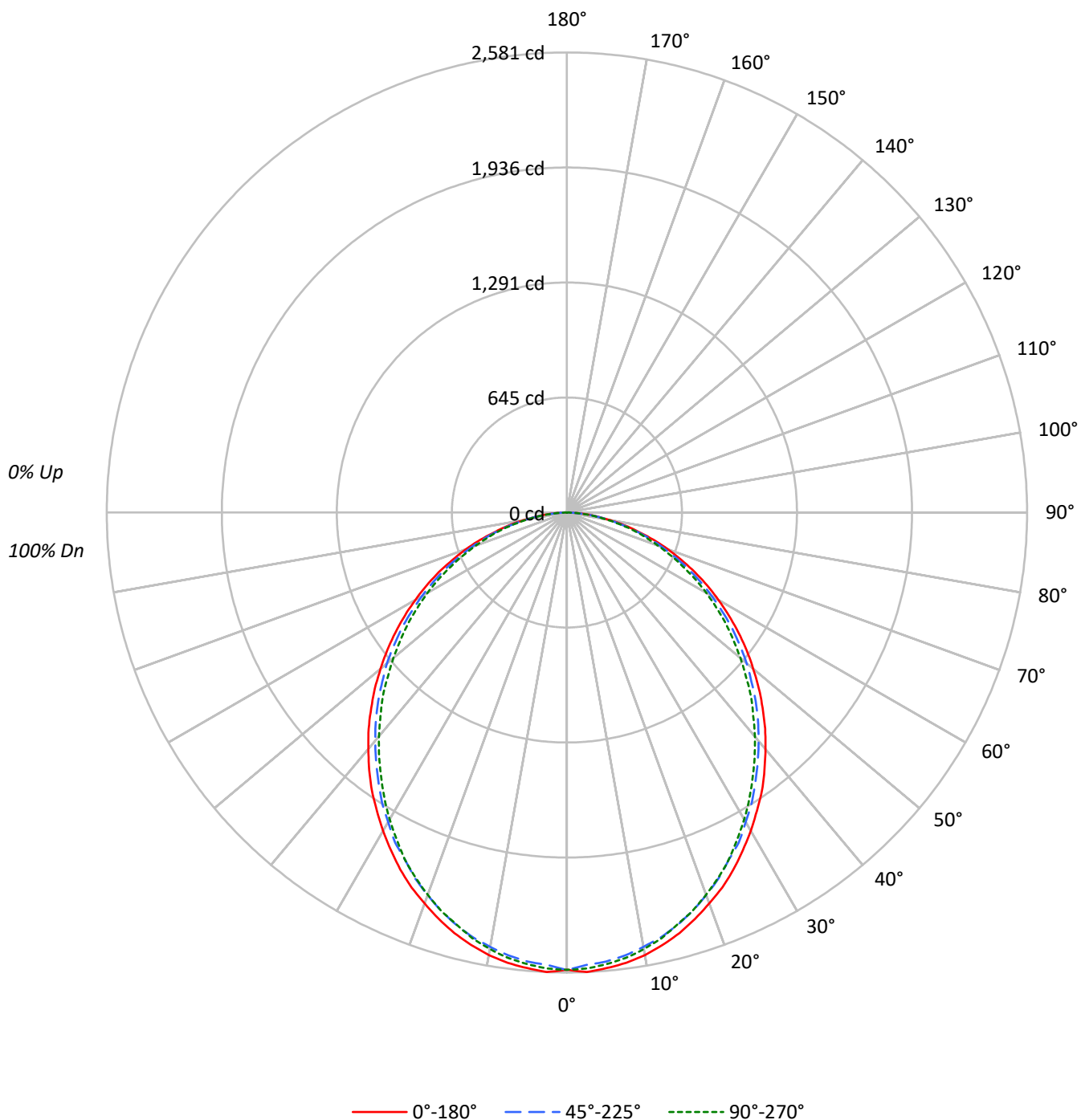
Lumens per Lamp: N/A
Luminaire Lumens: 6528.1 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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: P931083

CATALOG NUMBER: DFN2DS-SQ4F0-070DS830-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931083

CATALOG NUMBER: DFN2DS-SQ4F0-070DS830-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°	1800	1800	1800
5°	1807	1781	1792
10°	1797	1763	1772
15°	1774	1740	1738
20°	1743	1706	1704
25°	1711	1664	1664
30°	1671	1625	1611
35°	1634	1579	1555
40°	1587	1532	1503
45°	1540	1486	1449
50°	1489	1438	1387
55°	1437	1382	1331
60°	1378	1316	1267
65°	1315	1250	1192
70°	1235	1169	1114
75°	1123	1077	1050
80°	997	967	917
85°	814	776	696

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1540 cd/sqm

TEST NUMBER: P931083

CATALOG NUMBER: DFN2DS-SQ4F0-070DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.5	3.7
10°-20°	679.5	10.4
20°-30°	998.5	15.3
30°-40°	1159.7	17.8
40°-50°	1158.3	17.7
50°-60°	1010.0	15.5
60°-70°	746.6	11.4
70°-80°	422.4	6.5
80°-90°	111.5	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°	1919.5	29.4
0°-40°	3079.2	47.2
0°-60°	5247.5	80.4
0°-90°	6528.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6528.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2566	2566	2566	2566	2566	
5°	2566	2556	2529	2548	2544	244
15°	2442	2428	2396	2406	2393	688
25°	2211	2191	2149	2154	2149	1017
35°	1907	1883	1843	1828	1816	1191
45°	1552	1535	1498	1471	1461	1198
55°	1174	1160	1130	1100	1088	1050
65°	792	777	753	730	718	783
75°	414	410	397	382	387	442
85°	101	99	96	89	86	119
90°	0	0	0	0	0	

TEST NUMBER: P931083

CATALOG NUMBER: DFN2DS-SQ4F0-070DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2565.7	2565.7	2565.7	2565.7	2565.7
2.5°	2580.7	2568.4	2541.1	2565.7	2561.0
5°	2565.7	2556.1	2528.9	2548.5	2543.8
7.5°	2548.5	2533.8	2506.6	2526.5	2521.5
10°	2521.5	2504.2	2474.6	2494.3	2487.0
12.5°	2484.3	2469.7	2440.2	2452.4	2447.4
15°	2442.5	2427.8	2395.6	2405.6	2393.2
17.5°	2390.6	2376.0	2343.8	2356.1	2343.8
20°	2333.8	2319.2	2284.6	2292.0	2282.3
22.5°	2277.3	2255.1	2222.8	2222.8	2217.8
25°	2210.6	2190.9	2149.1	2153.8	2149.1
27.5°	2136.5	2119.2	2087.3	2079.9	2067.6
30°	2062.7	2042.7	2005.9	1998.5	1988.6
32.5°	1983.6	1969.0	1929.4	1914.5	1904.5
35°	1907.2	1882.6	1843.0	1828.1	1815.8
37.5°	1820.8	1798.6	1759.0	1741.8	1729.4
40°	1732.1	1712.2	1672.6	1650.7	1640.7
42.5°	1645.7	1625.8	1586.5	1561.6	1547.0
45°	1551.9	1534.7	1497.5	1470.6	1460.6
47.5°	1460.6	1443.3	1403.8	1376.5	1361.9
50°	1364.3	1352.0	1317.4	1282.9	1270.6
52.5°	1270.6	1253.3	1221.4	1194.2	1176.8
55°	1174.5	1159.6	1130.0	1100.4	1088.1
57.5°	1078.2	1065.9	1033.7	1004.1	994.2
60°	981.8	972.1	937.7	910.4	903.1
62.5°	888.1	870.9	846.3	821.7	811.7
65°	792.1	777.2	752.6	730.3	718.0
67.5°	693.4	680.9	658.8	641.6	631.6
70°	602.0	592.1	569.8	552.6	542.9
72.5°	508.3	498.4	486.1	468.8	461.5
75°	414.4	409.7	397.1	382.5	387.4
77.5°	330.6	320.7	315.7	308.3	301.1
80°	246.8	244.3	239.3	231.9	226.9
82.5°	167.8	167.8	165.4	155.5	155.5
85°	101.1	98.7	96.4	88.7	86.4
87.5°	44.5	39.6	34.6	27.2	24.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931083

CATALOG NUMBER: DFN2DS-SQ4F0-070DS830-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	13.33	14.94	13.69	15.25	15.56	12.88	14.49	13.25	14.81	15.12
	3H	15.08	16.53	15.45	16.86	17.22	14.58	16.04	14.96	16.37	16.73
	4H	15.72	17.09	16.12	17.44	17.81	15.23	16.60	15.63	16.94	17.32
	6H	16.19	17.46	16.60	17.82	18.22	15.69	16.96	16.10	17.32	17.71
	8H	16.33	17.54	16.76	17.93	18.33	15.83	17.04	16.26	17.43	17.83
	12H	16.42	17.58	16.85	17.97	18.39	15.91	17.07	16.34	17.45	17.88
4H	2H	13.89	15.26	14.28	15.60	15.98	13.53	14.90	13.93	15.25	15.63
	3H	15.86	17.01	16.27	17.41	17.81	15.45	16.60	15.86	17.00	17.40
	4H	16.64	17.67	17.07	18.09	18.52	16.21	17.25	16.65	17.66	18.10
	6H	17.23	18.14	17.69	18.58	19.04	16.80	17.71	17.26	18.15	18.60
	8H	17.42	18.27	17.88	18.71	19.18	16.99	17.83	17.45	18.27	18.74
	12H	17.56	18.32	18.04	18.79	19.26	17.10	17.86	17.58	18.34	18.81
8H	4H	16.91	17.76	17.37	18.20	18.67	16.54	17.38	17.00	17.83	18.29
	6H	17.63	18.33	18.12	18.82	19.29	17.24	17.95	17.74	18.44	18.91
	8H	17.88	18.52	18.39	19.02	19.51	17.49	18.12	18.00	18.63	19.12
	12H	18.08	18.64	18.59	19.13	19.69	17.67	18.23	18.18	18.72	19.28
12H	4H	16.94	17.70	17.42	18.17	18.64	16.57	17.33	17.05	17.81	18.28
	6H	17.67	18.30	18.18	18.81	19.30	17.30	17.93	17.81	18.44	18.93
	8H	17.98	18.54	18.49	19.03	19.59	17.61	18.16	18.11	18.65	19.22