

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: P931093

Luminaire Tested: DFN2DS-SQ4F0-070DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931093
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-SQ4F0-070DS930-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

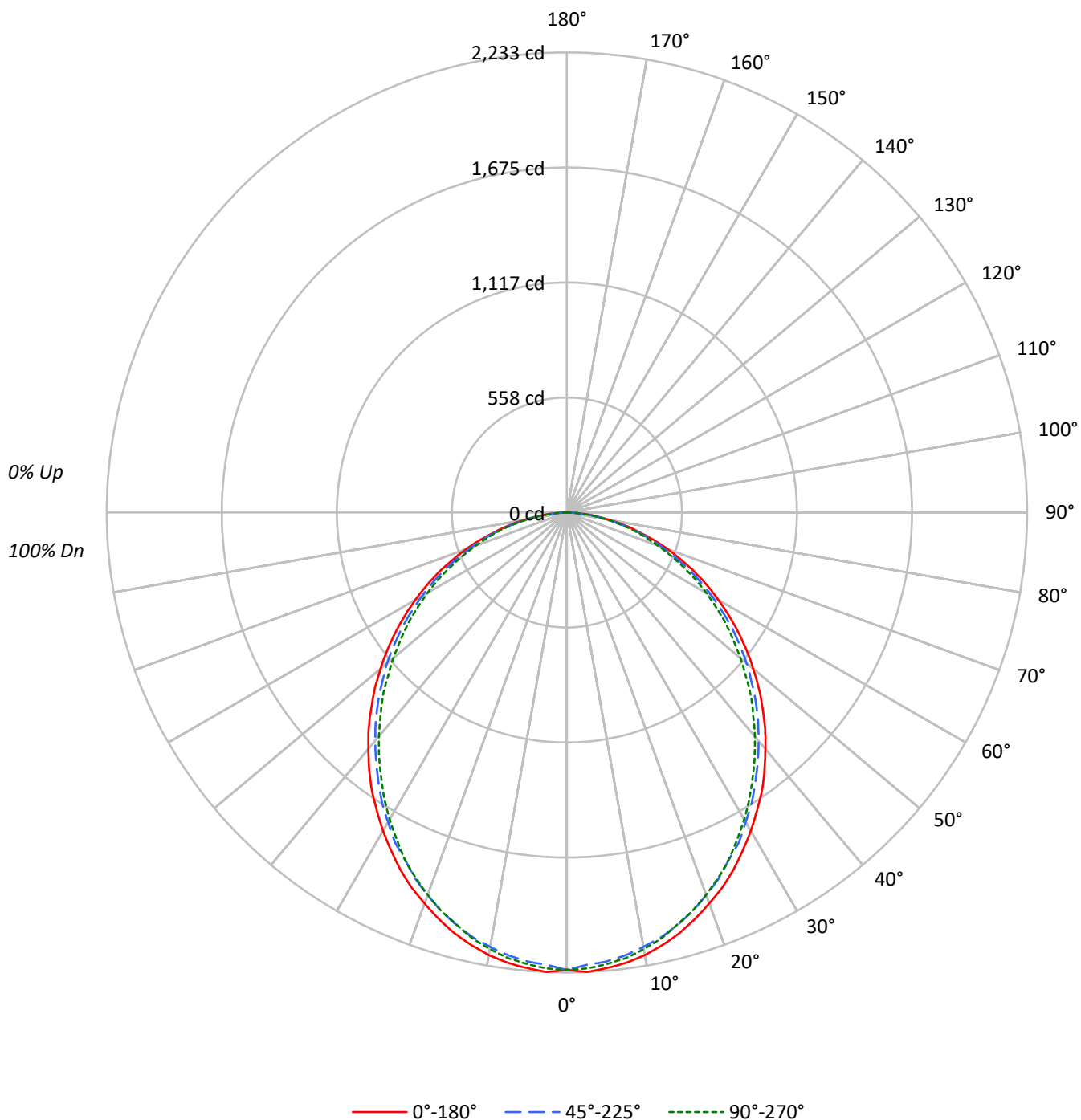
Lumens per Lamp: N/A
Luminaire Lumens: 5648.0 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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: P931093

CATALOG NUMBER: DFN2DS-SQ4F0-070DS930-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931093

CATALOG NUMBER: DFN2DS-SQ4F0-070DS930-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°	1558	1558	1558
5°	1564	1541	1550
10°	1554	1525	1533
15°	1535	1506	1504
20°	1508	1476	1474
25°	1481	1439	1439
30°	1446	1406	1394
35°	1413	1366	1346
40°	1373	1326	1300
45°	1332	1286	1254
50°	1289	1244	1200
55°	1243	1196	1152
60°	1192	1139	1096
65°	1138	1081	1031
70°	1069	1011	964
75°	972	931	909
80°	863	836	793
85°	704	671	601

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1332 cd/sqm

TEST NUMBER: P931093

CATALOG NUMBER: DFN2DS-SQ4F0-070DS930-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.9	3.7
10°-20°	587.9	10.4
20°-30°	863.9	15.3
30°-40°	1003.4	17.8
40°-50°	1002.1	17.7
50°-60°	873.8	15.5
60°-70°	646.0	11.4
70°-80°	365.5	6.5
80°-90°	96.5	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°	1660.7	29.4
0°-40°	2664.1	47.2
0°-60°	4540.1	80.4
0°-90°	5648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2220	2220	2220	2220	2220	
5°	2220	2212	2188	2205	2201	211
15°	2113	2100	2073	2081	2071	595
25°	1913	1896	1859	1863	1859	880
35°	1650	1629	1594	1582	1571	1030
45°	1343	1328	1296	1272	1264	1036
55°	1016	1003	978	952	941	908
65°	685	672	651	632	621	678
75°	358	354	344	331	335	383
85°	87	85	83	77	75	103
90°	0	0	0	0	0	

TEST NUMBER: P931093

CATALOG NUMBER: DFN2DS-SQ4F0-070DS930-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2219.8	2219.8	2219.8	2219.8	2219.8
2.5°	2232.8	2222.1	2198.5	2219.8	2215.7
5°	2219.8	2211.5	2187.9	2204.9	2200.8
7.5°	2204.9	2192.2	2168.6	2185.9	2181.6
10°	2181.6	2166.6	2141.0	2158.0	2151.7
12.5°	2149.4	2136.8	2111.2	2121.8	2117.5
15°	2113.2	2100.5	2072.6	2081.3	2070.6
17.5°	2068.3	2055.7	2027.8	2038.5	2027.8
20°	2019.2	2006.5	1976.6	1983.0	1974.6
22.5°	1970.3	1951.0	1923.2	1923.2	1918.8
25°	1912.6	1895.5	1859.3	1863.4	1859.3
27.5°	1848.4	1833.5	1805.9	1799.5	1788.8
30°	1784.6	1767.3	1735.5	1729.1	1720.5
32.5°	1716.1	1703.5	1669.3	1656.4	1647.8
35°	1650.0	1628.8	1594.5	1581.7	1571.0
37.5°	1575.3	1556.1	1521.8	1506.9	1496.3
40°	1498.5	1481.3	1447.1	1428.1	1419.5
42.5°	1423.8	1406.6	1372.6	1351.1	1338.4
45°	1342.7	1327.8	1295.6	1272.3	1263.7
47.5°	1263.7	1248.7	1214.5	1191.0	1178.3
50°	1180.4	1169.7	1139.8	1109.9	1099.3
52.5°	1099.3	1084.4	1056.7	1033.2	1018.2
55°	1016.1	1003.3	977.7	952.1	941.4
57.5°	932.8	922.2	894.3	868.7	860.2
60°	849.5	841.1	811.3	787.7	781.3
62.5°	768.4	753.5	732.2	710.9	702.3
65°	685.3	672.4	651.1	631.9	621.2
67.5°	599.9	589.1	570.0	555.1	546.5
70°	520.9	512.3	493.0	478.1	469.7
72.5°	439.8	431.2	420.5	405.6	399.3
75°	358.5	354.4	343.5	330.9	335.2
77.5°	286.1	277.4	273.1	266.7	260.5
80°	213.5	211.3	207.0	200.7	196.3
82.5°	145.2	145.2	143.1	134.6	134.6
85°	87.4	85.4	83.4	76.8	74.7
87.5°	38.5	34.2	29.9	23.6	21.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931093

CATALOG NUMBER: DFN2DS-SQ4F0-070DS930-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	12.82	14.43	13.19	14.75	15.06	12.38	13.99	12.74	14.30	14.62
	3H	14.57	16.03	14.95	16.35	16.71	14.08	15.54	14.46	15.86	16.22
	4H	15.22	16.59	15.62	16.94	17.31	14.72	16.09	15.12	16.44	16.82
	6H	15.69	16.96	16.10	17.32	17.71	15.19	16.46	15.60	16.82	17.21
	8H	15.83	17.04	16.26	17.43	17.83	15.33	16.54	15.75	16.93	17.33
	12H	15.92	17.08	16.35	17.46	17.89	15.41	16.57	15.84	16.95	17.38
4H	2H	13.38	14.75	13.78	15.10	15.48	13.03	14.40	13.43	14.75	15.12
	3H	15.36	16.50	15.77	16.90	17.30	14.95	16.10	15.36	16.49	16.90
	4H	16.13	17.17	16.57	17.58	18.02	15.71	16.75	16.14	17.16	17.60
	6H	16.73	17.64	17.19	18.08	18.53	16.30	17.20	16.75	17.64	18.10
	8H	16.92	17.77	17.38	18.21	18.67	16.48	17.33	16.94	17.77	18.24
	12H	17.05	17.81	17.53	18.29	18.76	16.60	17.36	17.08	17.84	18.31
8H	4H	16.41	17.25	16.87	17.70	18.16	16.03	16.88	16.49	17.32	17.79
	6H	17.12	17.83	17.62	18.31	18.79	16.74	17.44	17.23	17.93	18.41
	8H	17.38	18.01	17.89	18.52	19.00	16.99	17.62	17.50	18.13	18.61
	12H	17.58	18.14	18.09	18.63	19.19	17.17	17.73	17.68	18.22	18.78
12H	4H	16.43	17.19	16.91	17.67	18.14	16.07	16.83	16.55	17.30	17.77
	6H	17.17	17.80	17.68	18.31	18.79	16.80	17.43	17.31	17.94	18.42
	8H	17.48	18.04	17.99	18.53	19.09	17.10	17.66	17.61	18.15	18.71