

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: P930847

Luminaire Tested: DFN2DS-SQ2F0-050DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930847
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-SQ2F0-050DS950-FLL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

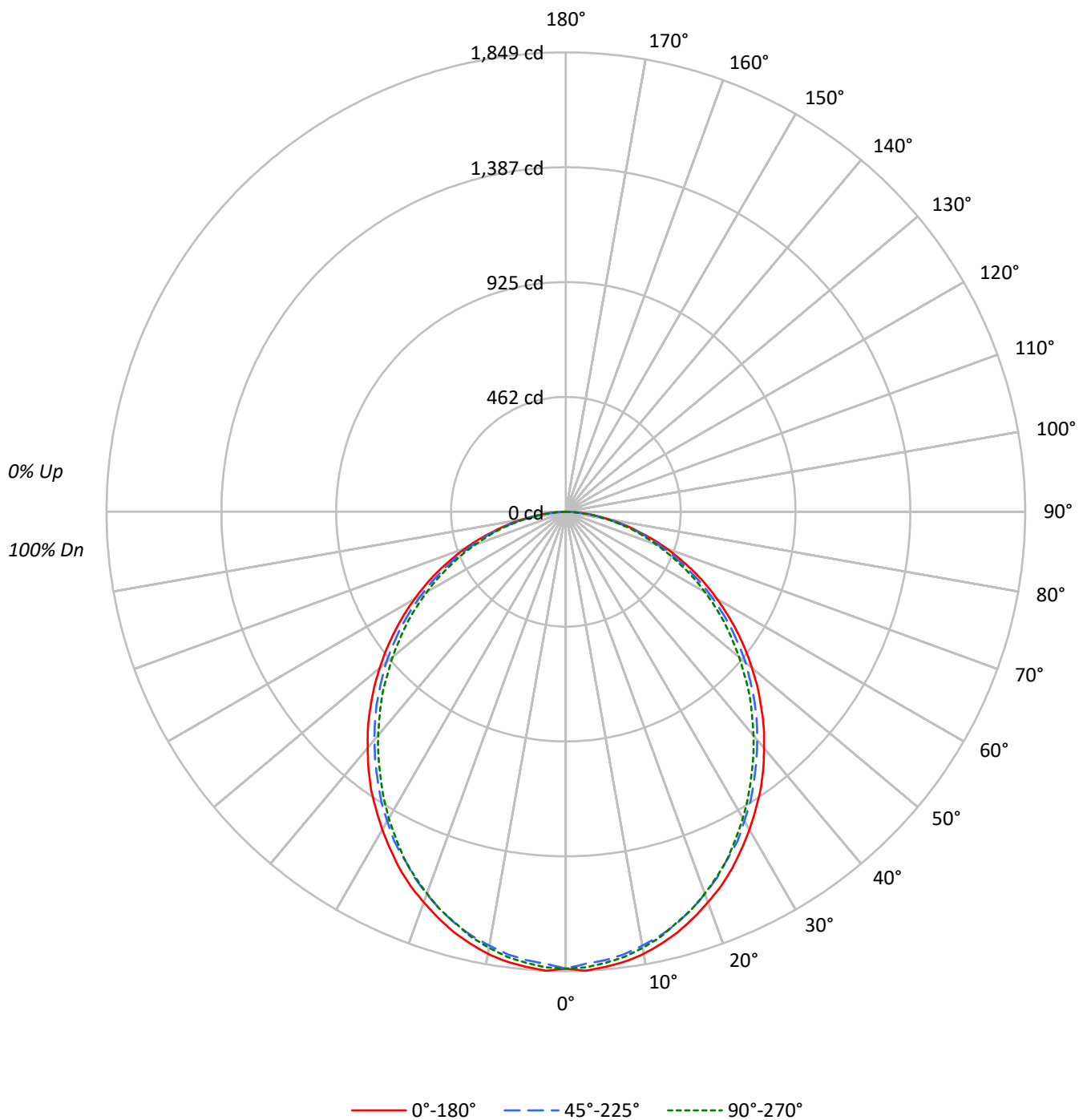
Lumens per Lamp: N/A
Luminaire Lumens: 4677.7 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 47.9
Input Voltage (V): 120
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

TEST NUMBER: P930847

CATALOG NUMBER: DFN2DS-SQ2F0-050DS950-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930847

CATALOG NUMBER: DFN2DS-SQ2F0-050DS950-FLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4043	4043	4043
5°	4058	4000	4023
10°	4034	3959	3979
15°	3984	3908	3904
20°	3913	3831	3827
25°	3843	3736	3736
30°	3753	3649	3618
35°	3668	3545	3493
40°	3563	3440	3375
45°	3458	3337	3255
50°	3344	3230	3114
55°	3226	3104	2989
60°	3094	2955	2846
65°	2953	2805	2677
70°	2774	2625	2502
75°	2522	2417	2358
80°	2240	2170	2059
85°	1827	1741	1562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3458 cd/sqm

TEST NUMBER: P930847

CATALOG NUMBER: DFN2DS-SQ2F0-050DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	3.7
10°-20°	486.9	10.4
20°-30°	715.5	15.3
30°-40°	831.0	17.8
40°-50°	830.0	17.7
50°-60°	723.7	15.5
60°-70°	535.0	11.4
70°-80°	302.7	6.5
80°-90°	79.9	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°	1375.4	29.4
0°-40°	2206.5	47.2
0°-60°	3760.2	80.4
0°-90°	4677.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4677.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1838	1832	1812	1826	1823	175
15°	1750	1740	1717	1724	1715	493
25°	1584	1570	1540	1543	1540	729
35°	1367	1349	1321	1310	1301	853
45°	1112	1100	1073	1054	1047	858
55°	842	831	810	788	780	752
65°	568	557	539	523	514	561
75°	297	294	284	274	278	317
85°	72	71	69	64	62	85
90°	0	0	0	0	0	

TEST NUMBER: P930847

CATALOG NUMBER: DFN2DS-SQ2F0-050DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1838.5	1838.5	1838.5	1838.5	1838.5
2.5°	1849.2	1840.4	1820.9	1838.5	1835.2
5°	1838.5	1831.6	1812.0	1826.1	1822.8
7.5°	1826.1	1815.6	1796.2	1810.4	1806.8
10°	1806.8	1794.5	1773.3	1787.3	1782.1
12.5°	1780.2	1769.7	1748.5	1757.3	1753.7
15°	1750.1	1739.7	1716.6	1723.8	1714.9
17.5°	1713.0	1702.5	1679.5	1688.2	1679.5
20°	1672.4	1661.9	1637.1	1642.3	1635.4
22.5°	1631.8	1615.9	1592.8	1592.8	1589.2
25°	1584.0	1569.9	1539.9	1543.3	1539.9
27.5°	1530.9	1518.5	1495.7	1490.4	1481.6
30°	1478.0	1463.8	1437.3	1432.1	1425.0
32.5°	1421.4	1410.9	1382.5	1371.9	1364.8
35°	1366.6	1349.0	1320.6	1310.0	1301.2
37.5°	1304.7	1288.8	1260.4	1248.1	1239.3
40°	1241.2	1226.9	1198.5	1182.8	1175.7
42.5°	1179.3	1165.0	1136.8	1119.0	1108.5
45°	1112.1	1099.7	1073.0	1053.8	1046.6
47.5°	1046.6	1034.2	1006.0	986.4	975.9
50°	977.6	968.8	944.1	919.3	910.4
52.5°	910.4	898.0	875.2	855.7	843.3
55°	841.6	830.9	809.7	788.5	779.7
57.5°	772.5	763.7	740.7	719.5	712.3
60°	703.6	696.7	671.9	652.3	647.1
62.5°	636.5	624.1	606.4	588.7	581.6
65°	567.6	556.9	539.2	523.3	514.5
67.5°	496.9	487.9	472.1	459.7	452.6
70°	431.4	424.3	408.3	396.0	389.1
72.5°	364.3	357.1	348.3	335.9	330.7
75°	296.9	293.5	284.5	274.0	277.6
77.5°	236.9	229.7	226.2	220.9	215.7
80°	176.9	175.0	171.4	166.2	162.6
82.5°	120.2	120.2	118.5	111.4	111.4
85°	72.4	70.7	69.0	63.6	61.9
87.5°	31.8	28.4	24.8	19.5	17.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930847

CATALOG NUMBER: DFN2DS-SQ2F0-050DS950-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	16.14	17.75	16.50	18.06	18.37	15.69	17.30	16.06	17.62	17.93
	3H	17.89	19.34	18.26	19.67	20.03	17.39	18.85	17.77	19.18	19.54
	4H	18.53	19.90	18.93	20.25	20.63	18.04	19.41	18.44	19.75	20.13
	6H	19.00	20.27	19.41	20.63	21.03	18.50	19.77	18.91	20.13	20.52
	8H	19.14	20.36	19.57	20.74	21.14	18.64	19.85	19.07	20.24	20.64
	12H	19.23	20.39	19.66	20.78	21.21	18.72	19.88	19.15	20.26	20.69
4H	2H	16.70	18.06	17.09	18.41	18.79	16.34	17.71	16.74	18.06	18.44
	3H	18.67	19.82	19.08	20.22	20.62	18.26	19.41	18.67	19.81	20.21
	4H	19.45	20.48	19.88	20.90	21.33	19.02	20.06	19.46	20.47	20.91
	6H	20.04	20.95	20.50	21.39	21.85	19.61	20.52	20.07	20.96	21.41
	8H	20.23	21.08	20.69	21.52	21.99	19.80	20.64	20.26	21.08	21.55
	12H	20.37	21.13	20.85	21.60	22.07	19.91	20.67	20.39	21.15	21.62
8H	4H	19.72	20.57	20.18	21.01	21.48	19.35	20.19	19.81	20.64	21.10
	6H	20.44	21.14	20.93	21.63	22.10	20.05	20.76	20.55	21.25	21.72
	8H	20.69	21.33	21.20	21.83	22.32	20.30	20.93	20.81	21.44	21.93
	12H	20.89	21.45	21.40	21.94	22.50	20.48	21.04	20.99	21.53	22.09
12H	4H	19.75	20.51	20.23	20.98	21.45	19.38	20.14	19.86	20.62	21.09
	6H	20.48	21.11	20.99	21.62	22.11	20.11	20.74	20.62	21.25	21.74
	8H	20.79	21.35	21.30	21.84	22.40	20.42	20.97	20.92	21.47	22.03