

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: P929982

Luminaire Tested: DFN2DS-4P4F0-050DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929982
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-050DS940-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

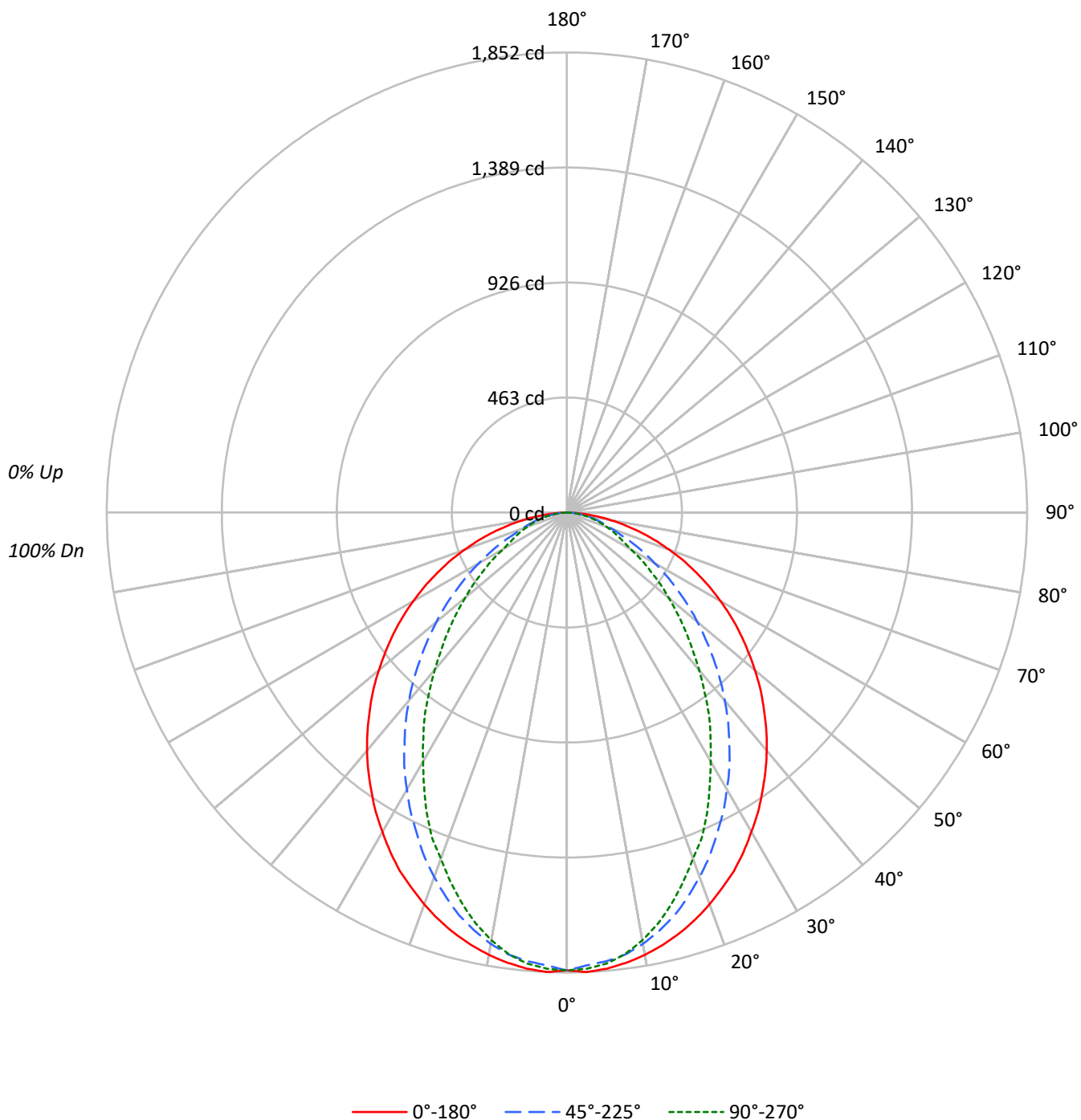
Lumens per Lamp: N/A
Luminaire Lumens: 3791.0 lumens
Efficiency: N/A
Efficacy: 74.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929982

CATALOG NUMBER: DFN2DS-4P4F0-050DS940-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P929982

CATALOG NUMBER: DFN2DS-4P4F0-050DS940-RLL

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1196	1196	1196
5°	1200	1181	1187
10°	1191	1162	1152
15°	1177	1127	1095
20°	1159	1078	1024
25°	1139	1022	955
30°	1112	965	867
35°	1086	902	790
40°	1060	838	701
45°	1029	765	620
50°	997	692	541
55°	964	613	464
60°	926	530	385
65°	883	446	351
70°	832	367	323
75°	769	334	301
80°	679	299	274
85°	534	236	236

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1029 cd/sqm

TEST NUMBER: P929982

CATALOG NUMBER: DFN2DS-4P4F0-050DS940-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	4.6
10°-20°	474.3	12.5
20°-30°	665.8	17.6
30°-40°	725.8	19.1
40°-50°	667.1	17.6
50°-60°	523.9	13.8
60°-70°	341.0	9.0
70°-80°	175.5	4.6
80°-90°	44.8	1.2
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°	1312.9	34.6
0°-40°	2038.7	53.8
0°-60°	3229.7	85.2
0°-90°	3791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1835	1813	1828	1823	175
15°	1753	1735	1678	1646	1630	494
25°	1591	1538	1428	1360	1334	732
35°	1371	1286	1139	1034	998	858
45°	1121	1009	834	716	676	866
55°	852	722	542	442	410	762
65°	576	440	290	234	228	571
75°	307	190	133	122	120	325
85°	72	37	32	32	32	86
90°	0	0	0	0	0	

TEST NUMBER: P929982

CATALOG NUMBER: DFN2DS-4P4F0-050DS940-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1843.3	1843.3	1843.3	1843.3	1843.3
2.5°	1851.6	1843.3	1824.9	1841.7	1838.3
5°	1843.3	1835.0	1813.3	1828.2	1823.3
7.5°	1828.2	1818.3	1795.0	1801.6	1793.2
10°	1808.3	1796.6	1763.3	1758.2	1748.2
12.5°	1783.3	1768.3	1723.2	1713.3	1694.8
15°	1753.2	1734.9	1678.2	1646.5	1629.9
17.5°	1718.2	1691.5	1621.4	1584.7	1558.0
20°	1678.2	1644.8	1561.4	1519.8	1483.0
22.5°	1634.9	1596.4	1499.6	1443.0	1418.0
25°	1591.4	1538.0	1427.9	1359.6	1334.4
27.5°	1539.8	1483.0	1361.2	1282.8	1244.4
30°	1484.7	1421.2	1287.8	1202.8	1157.6
32.5°	1431.3	1354.5	1217.8	1117.7	1075.9
35°	1371.3	1286.2	1139.4	1034.3	997.5
37.5°	1312.8	1221.1	1066.0	950.8	909.2
40°	1251.1	1151.1	989.1	870.8	827.4
42.5°	1187.8	1081.0	912.5	789.0	747.4
45°	1121.1	1009.2	834.1	715.6	675.5
47.5°	1057.6	939.3	759.1	640.5	603.9
50°	987.6	869.2	685.7	570.4	535.6
52.5°	919.1	794.0	615.6	505.5	473.8
55°	852.4	722.3	542.1	442.1	410.4
57.5°	784.1	650.6	477.1	383.7	357.0
60°	714.0	580.5	408.6	323.7	296.9
62.5°	645.6	512.2	350.3	270.3	257.0
65°	575.5	440.4	290.3	233.6	228.5
67.5°	508.8	373.7	233.6	205.2	200.2
70°	438.8	308.6	193.5	176.8	170.1
72.5°	372.1	248.5	161.8	148.5	145.1
75°	306.9	190.1	133.4	121.8	120.2
77.5°	241.9	135.0	105.2	98.4	95.0
80°	181.8	96.8	80.0	73.4	73.4
82.5°	126.8	65.1	55.0	51.6	51.6
85°	71.7	36.7	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929982

CATALOG NUMBER: DFN2DS-4P4F0-050DS940-RLL

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	11.86	13.38	12.22	13.69	14.01	7.82	9.34	8.18	9.65	9.97
	3H	13.62	14.99	14.00	15.31	15.68	9.08	10.45	9.46	10.78	11.14
	4H	14.29	15.57	14.69	15.92	16.30	9.58	10.86	9.98	11.21	11.59
	6H	14.78	15.96	15.19	16.33	16.72	9.96	11.15	10.38	11.51	11.91
	8H	14.94	16.07	15.37	16.46	16.86	10.09	11.22	10.52	11.60	12.01
	12H	15.05	16.12	15.48	16.51	16.93	10.17	11.25	10.60	11.63	12.06
4H	2H	11.96	13.24	12.36	13.59	13.97	8.51	9.79	8.91	10.14	10.52
	3H	13.89	14.96	14.30	15.36	15.76	9.96	11.02	10.37	11.42	11.82
	4H	14.64	15.60	15.08	16.02	16.45	10.56	11.51	10.99	11.93	12.37
	6H	15.23	16.07	15.69	16.51	16.97	11.04	11.87	11.50	12.32	12.78
	8H	15.45	16.23	15.91	16.67	17.14	11.20	11.98	11.67	12.43	12.89
	12H	15.60	16.30	16.09	16.78	17.25	11.32	12.02	11.80	12.49	12.97
8H	4H	14.67	15.44	15.13	15.89	16.36	10.91	11.69	11.37	12.13	12.60
	6H	15.30	15.95	15.80	16.44	16.92	11.50	12.14	11.99	12.63	13.11
	8H	15.55	16.13	16.07	16.64	17.13	11.72	12.29	12.23	12.80	13.29
	12H	15.76	16.27	16.27	16.76	17.33	11.89	12.40	12.40	12.90	13.46
12H	4H	14.65	15.35	15.13	15.82	16.30	10.95	11.65	11.43	12.13	12.60
	6H	15.29	15.86	15.80	16.37	16.86	11.56	12.14	12.07	12.65	13.13
	8H	15.57	16.08	16.08	16.57	17.14	11.83	12.34	12.34	12.83	13.40