

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: P930829

Luminaire Tested: DFN2DS-SQ2F0-040DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930829
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-SQ2F0-040DS950-FLL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

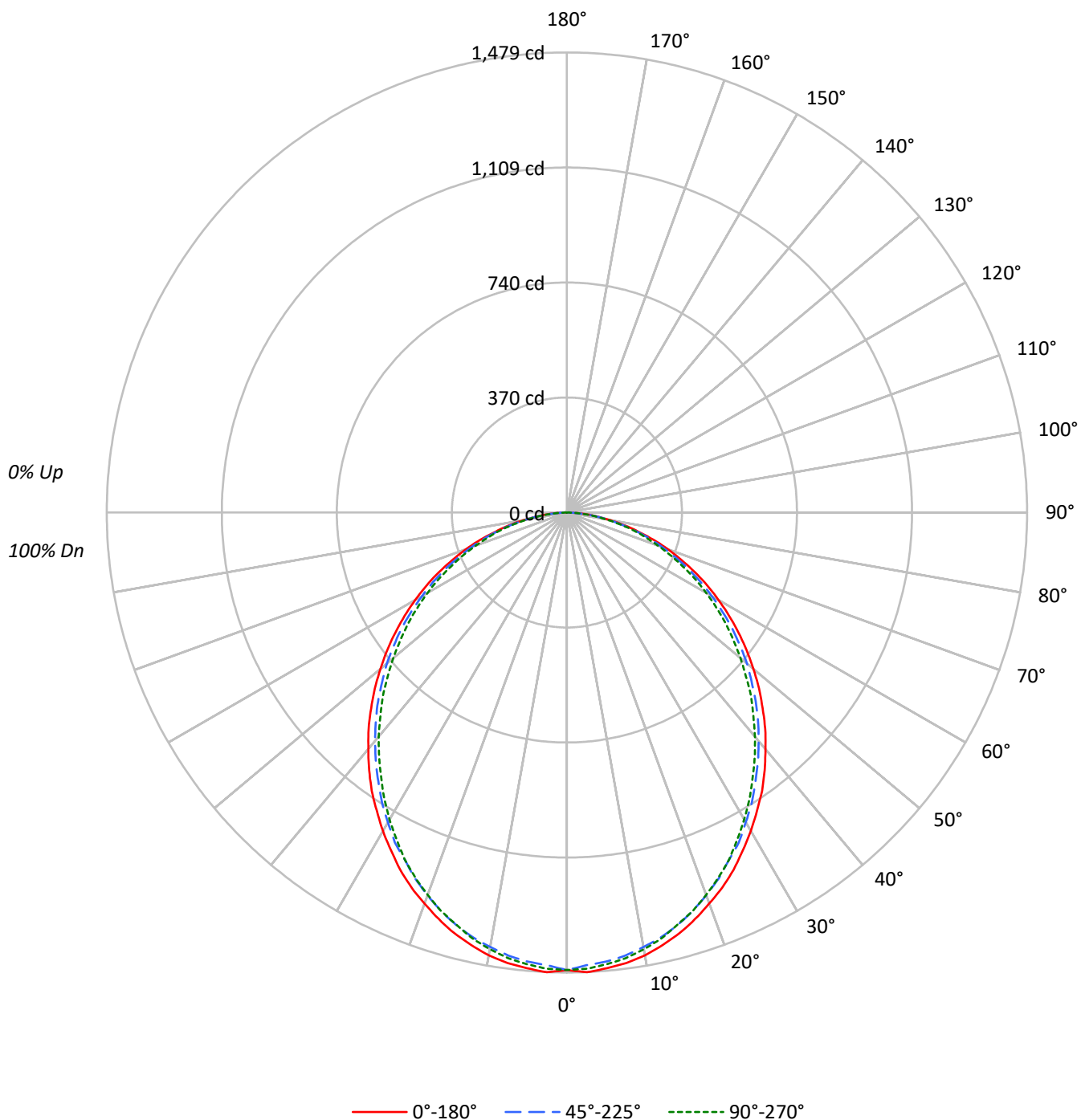
Lumens per Lamp: N/A
Luminaire Lumens: 3742.2 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 37.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930829

CATALOG NUMBER: DFN2DS-SQ2F0-040DS950-FLL

Luminous Intensity Polar Plot



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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°	3234	3234	3234
5°	3246	3200	3219
10°	3228	3167	3183
15°	3187	3126	3123
20°	3130	3065	3062
25°	3074	2989	2989
30°	3002	2920	2895
35°	2935	2836	2794
40°	2850	2752	2700
45°	2766	2669	2604
50°	2675	2583	2491
55°	2581	2483	2391
60°	2475	2364	2277
65°	2363	2245	2142
70°	2219	2100	2001
75°	2019	1935	1887
80°	1792	1736	1647
85°	1461	1393	1249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2766 cd/sqm

TEST NUMBER: P930829

CATALOG NUMBER: DFN2DS-SQ2F0-040DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.4	3.7
10°-20°	389.5	10.4
20°-30°	572.4	15.3
30°-40°	664.8	17.8
40°-50°	664.0	17.7
50°-60°	579.0	15.5
60°-70°	428.0	11.4
70°-80°	242.2	6.5
80°-90°	63.9	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°	1100.3	29.4
0°-40°	1765.2	47.2
0°-60°	3008.1	80.4
0°-90°	3742.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3742.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1471	1471	1471	1471	1471	
5°	1471	1465	1450	1461	1458	140
15°	1400	1392	1373	1379	1372	394
25°	1267	1256	1232	1235	1232	583
35°	1093	1079	1056	1048	1041	683
45°	890	880	858	843	837	687
55°	673	665	648	631	624	602
65°	454	446	431	419	412	449
75°	238	235	228	219	222	254
85°	58	57	55	51	50	68
90°	0	0	0	0	0	

TEST NUMBER: P930829

CATALOG NUMBER: DFN2DS-SQ2F0-040DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1470.8	1470.8	1470.8	1470.8	1470.8
2.5°	1479.4	1472.3	1456.7	1470.8	1468.2
5°	1470.8	1465.2	1449.6	1460.9	1458.2
7.5°	1460.9	1452.5	1436.9	1448.3	1445.5
10°	1445.5	1435.5	1418.6	1429.9	1425.6
12.5°	1424.1	1415.7	1398.8	1405.9	1402.9
15°	1400.1	1391.7	1373.3	1378.9	1372.0
17.5°	1370.4	1362.0	1343.6	1350.6	1343.6
20°	1337.8	1329.4	1309.7	1313.8	1308.4
22.5°	1305.4	1292.7	1274.2	1274.2	1271.4
25°	1267.2	1255.9	1231.9	1234.6	1231.9
27.5°	1224.7	1214.8	1196.6	1192.3	1185.3
30°	1182.4	1171.0	1149.9	1145.6	1140.0
32.5°	1137.1	1128.7	1106.0	1097.5	1091.8
35°	1093.3	1079.2	1056.5	1048.0	1040.9
37.5°	1043.8	1031.0	1008.3	998.5	991.4
40°	992.9	981.5	958.8	946.2	940.6
42.5°	943.4	932.0	909.5	895.2	886.8
45°	889.6	879.8	858.4	843.0	837.3
47.5°	837.3	827.3	804.8	789.2	780.8
50°	782.1	775.0	755.2	735.4	728.3
52.5°	728.3	718.5	700.2	684.6	674.6
55°	673.3	664.7	647.8	630.8	623.8
57.5°	618.0	611.0	592.5	575.6	569.9
60°	562.8	557.3	537.5	521.9	517.7
62.5°	509.2	499.2	485.2	471.0	465.3
65°	454.1	445.5	431.4	418.6	411.6
67.5°	397.5	390.3	377.7	367.8	362.1
70°	345.1	339.4	326.7	316.8	311.2
72.5°	291.4	285.7	278.7	268.8	264.5
75°	237.6	234.8	227.7	219.2	222.1
77.5°	189.5	183.8	181.0	176.7	172.6
80°	141.5	140.0	137.1	133.0	130.1
82.5°	96.2	96.2	94.9	89.1	89.1
85°	57.9	56.6	55.2	50.8	49.5
87.5°	25.5	22.7	19.8	15.6	14.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930829

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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	15.36	16.97	15.73	17.29	17.60	14.92	16.53	15.28	16.84	17.16
	3H	17.11	18.57	17.49	18.89	19.25	16.62	18.07	17.00	18.40	18.76
	4H	17.76	19.13	18.16	19.47	19.85	17.26	18.63	17.66	18.98	19.36
	6H	18.23	19.49	18.64	19.86	20.25	17.73	18.99	18.14	19.36	19.75
	8H	18.37	19.58	18.79	19.97	20.37	17.87	19.08	18.29	19.47	19.87
	12H	18.46	19.62	18.89	20.00	20.43	17.95	19.11	18.38	19.49	19.92
4H	2H	15.92	17.29	16.32	17.64	18.01	15.57	16.94	15.97	17.29	17.66
	3H	17.90	19.04	18.31	19.44	19.84	17.49	18.64	17.90	19.03	19.43
	4H	18.67	19.71	19.10	20.12	20.56	18.25	19.28	18.68	19.70	20.13
	6H	19.27	20.17	19.72	20.61	21.07	18.84	19.74	19.29	20.18	20.64
	8H	19.46	20.31	19.92	20.75	21.21	19.02	19.87	19.48	20.31	20.78
	12H	19.59	20.35	20.07	20.83	21.30	19.14	19.90	19.62	20.37	20.84
8H	4H	18.95	19.79	19.41	20.24	20.70	18.57	19.42	19.03	19.86	20.33
	6H	19.66	20.36	20.15	20.85	21.33	19.28	19.98	19.77	20.47	20.95
	8H	19.92	20.55	20.43	21.06	21.54	19.53	20.16	20.04	20.67	21.15
	12H	20.12	20.68	20.63	21.17	21.73	19.71	20.26	20.21	20.75	21.32
12H	4H	18.97	19.73	19.45	20.21	20.68	18.61	19.37	19.09	19.84	20.31
	6H	19.71	20.34	20.22	20.84	21.33	19.34	19.97	19.85	20.48	20.96
	8H	20.02	20.58	20.53	21.07	21.63	19.64	20.20	20.15	20.69	21.25