

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: P930649

Luminaire Tested: DFN2DS-PN4F0-040DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930649
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-PN4F0-040DS950-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

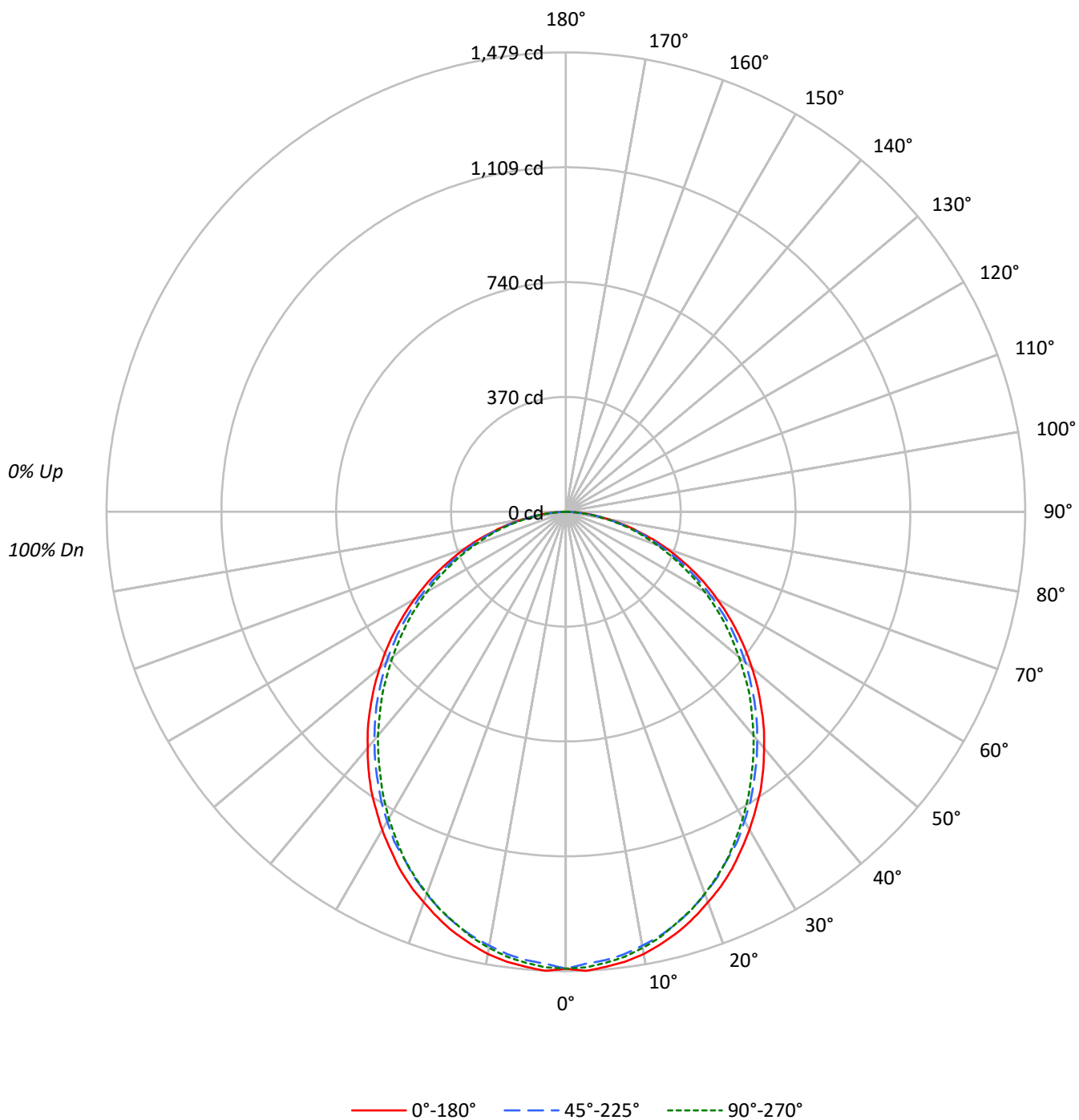
Lumens per Lamp: N/A
Luminaire Lumens: 3742.2 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
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: P930649

CATALOG NUMBER: DFN2DS-PN4F0-040DS950-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
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°	1074	1074	1074
5°	1078	1062	1068
10°	1071	1051	1057
15°	1058	1038	1037
20°	1039	1017	1016
25°	1021	992	992
30°	997	969	961
35°	974	941	928
40°	946	914	896
45°	918	886	864
50°	888	858	827
55°	857	824	794
60°	822	785	756
65°	784	745	711
70°	737	697	664
75°	670	642	626
80°	595	576	547
85°	485	462	415

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 918 cd/sqm

TEST NUMBER: P930649

CATALOG NUMBER: DFN2DS-PN4F0-040DS950-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: P930649

CATALOG NUMBER: DFN2DS-PN4F0-040DS950-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: P930649

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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	11.53	13.14	11.89	13.45	13.77	11.09	12.70	11.45	13.01	13.32
	3H	13.28	14.73	13.66	15.06	15.42	12.79	14.24	13.17	14.57	14.93
	4H	13.93	15.29	14.32	15.64	16.02	13.43	14.80	13.83	15.15	15.52
	6H	14.39	15.66	14.81	16.03	16.42	13.89	15.16	14.30	15.53	15.92
	8H	14.54	15.75	14.96	16.14	16.54	14.04	15.25	14.46	15.63	16.03
	12H	14.63	15.79	15.06	16.17	16.60	14.12	15.28	14.55	15.66	16.09
4H	2H	12.09	13.46	12.49	13.81	14.18	11.74	13.11	12.14	13.45	13.83
	3H	14.06	15.21	14.47	15.61	16.01	13.66	14.80	14.07	15.20	15.60
	4H	14.84	15.88	15.27	16.29	16.73	14.42	15.45	14.85	15.87	16.30
	6H	15.44	16.34	15.89	16.78	17.24	15.01	15.91	15.46	16.35	16.81
	8H	15.63	16.47	16.09	16.92	17.38	15.19	16.04	15.65	16.48	16.94
	12H	15.76	16.52	16.24	17.00	17.46	15.31	16.07	15.79	16.54	17.01
8H	4H	15.11	15.96	15.58	16.40	16.87	14.74	15.59	15.20	16.03	16.50
	6H	15.83	16.53	16.32	17.02	17.50	15.45	16.15	15.94	16.64	17.11
	8H	16.09	16.72	16.60	17.23	17.71	15.70	16.33	16.21	16.83	17.32
	12H	16.29	16.85	16.80	17.34	17.90	15.87	16.43	16.38	16.92	17.48
12H	4H	15.14	15.90	15.62	16.38	16.85	14.78	15.54	15.26	16.01	16.48
	6H	15.87	16.51	16.38	17.01	17.50	15.51	16.14	16.02	16.64	17.13
	8H	16.19	16.75	16.70	17.24	17.80	15.81	16.37	16.32	16.86	17.42