

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: P929829

Luminaire Tested: DFN2DS-4P2F0-040DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929829
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-4P2F0-040DS850-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

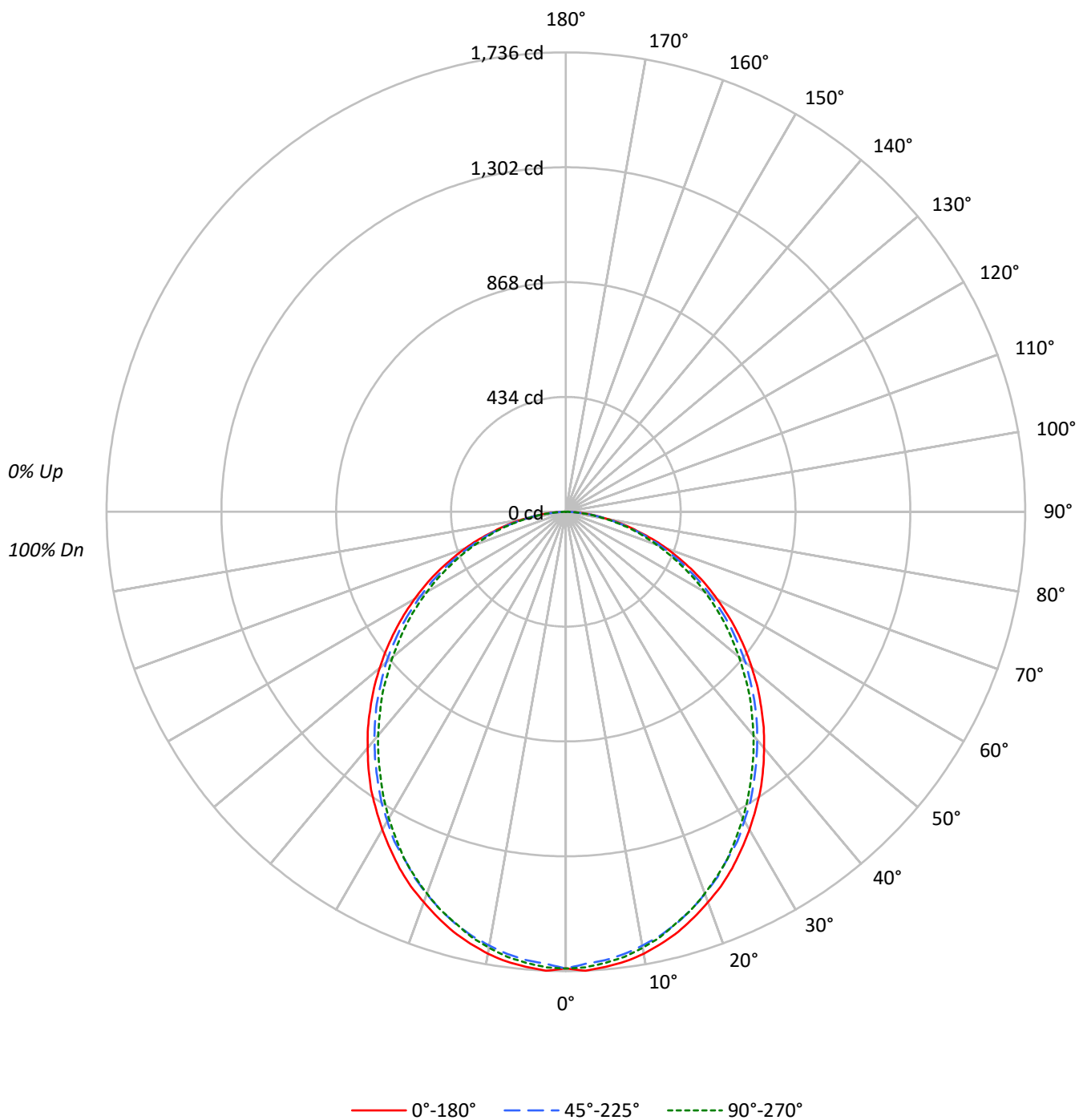
Lumens per Lamp: N/A
Luminaire Lumens: 4391.7 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929829

CATALOG NUMBER: DFN2DS-4P2F0-040DS850-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929829

CATALOG NUMBER: DFN2DS-4P2F0-040DS850-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°	4322	4322	4322
5°	4338	4276	4301
10°	4313	4233	4254
15°	4259	4178	4174
20°	4184	4096	4091
25°	4109	3994	3994
30°	4012	3902	3868
35°	3922	3790	3734
40°	3809	3678	3608
45°	3697	3567	3480
50°	3575	3453	3329
55°	3450	3319	3196
60°	3308	3159	3042
65°	3157	3000	2862
70°	2965	2807	2674
75°	2697	2585	2521
80°	2394	2320	2202
85°	1954	1862	1669

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3697 cd/sqm

TEST NUMBER: P929829

CATALOG NUMBER: DFN2DS-4P2F0-040DS850-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	3.7
10°-20°	457.1	10.4
20°-30°	671.7	15.3
30°-40°	780.2	17.8
40°-50°	779.2	17.7
50°-60°	679.5	15.5
60°-70°	502.3	11.4
70°-80°	284.2	6.5
80°-90°	75.0	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°	1291.3	29.4
0°-40°	2071.5	47.2
0°-60°	3530.2	80.4
0°-90°	4391.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4391.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1726	1720	1701	1714	1711	164
15°	1643	1633	1612	1618	1610	463
25°	1487	1474	1446	1449	1446	684
35°	1283	1266	1240	1230	1222	801
45°	1044	1032	1007	989	983	806
55°	790	780	760	740	732	706
65°	533	523	506	491	483	527
75°	279	276	267	257	261	298
85°	68	66	65	60	58	80
90°	0	0	0	0	0	

TEST NUMBER: P929829

CATALOG NUMBER: DFN2DS-4P2F0-040DS850-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1726.0	1726.0	1726.0	1726.0	1726.0
2.5°	1736.1	1727.8	1709.5	1726.0	1722.9
5°	1726.0	1719.5	1701.2	1714.4	1711.3
7.5°	1714.4	1704.5	1686.2	1699.7	1696.3
10°	1696.3	1684.7	1664.8	1678.0	1673.0
12.5°	1671.3	1661.4	1641.5	1649.9	1646.4
15°	1643.1	1633.2	1611.6	1618.3	1610.0
17.5°	1608.3	1598.4	1576.8	1585.0	1576.8
20°	1570.0	1560.1	1537.0	1541.8	1535.4
22.5°	1532.0	1517.0	1495.4	1495.4	1492.0
25°	1487.1	1473.9	1445.7	1448.9	1445.7
27.5°	1437.3	1425.6	1404.2	1399.2	1391.0
30°	1387.6	1374.3	1349.4	1344.4	1337.8
32.5°	1334.5	1324.6	1298.0	1288.0	1281.2
35°	1283.0	1266.5	1239.9	1229.9	1221.6
37.5°	1224.9	1209.9	1183.3	1171.8	1163.5
40°	1165.2	1151.8	1125.2	1110.4	1103.8
42.5°	1107.1	1093.7	1067.3	1050.6	1040.7
45°	1044.0	1032.5	1007.4	989.3	982.6
47.5°	982.6	970.9	944.4	926.1	916.3
50°	917.8	909.5	886.3	863.0	854.7
52.5°	854.7	843.2	821.7	803.4	791.7
55°	790.2	780.1	760.2	740.3	732.1
57.5°	725.3	717.1	695.3	675.5	668.8
60°	660.5	654.0	630.8	612.5	607.5
62.5°	597.5	585.9	569.4	552.7	546.1
65°	532.9	522.8	506.3	491.3	483.1
67.5°	466.4	458.0	443.3	431.6	425.0
70°	405.0	398.4	383.4	371.7	365.2
72.5°	342.0	335.3	327.0	315.4	310.4
75°	278.8	275.6	267.2	257.3	260.6
77.5°	222.4	215.7	212.4	207.4	202.5
80°	166.0	164.2	160.9	156.0	152.7
82.5°	112.9	112.9	111.3	104.6	104.6
85°	68.0	66.4	64.8	59.7	58.1
87.5°	29.9	26.6	23.3	18.3	16.5
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929829

CATALOG NUMBER: DFN2DS-4P2F0-040DS850-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	16.37	17.98	16.73	18.29	18.61	15.92	17.53	16.29	17.85	18.16
	3H	18.12	19.57	18.50	19.90	20.26	17.63	19.08	18.00	19.41	19.77
	4H	18.76	20.13	19.16	20.48	20.86	18.27	19.64	18.67	19.99	20.36
	6H	19.23	20.50	19.64	20.87	21.26	18.73	20.00	19.14	20.37	20.76
	8H	19.38	20.59	19.80	20.98	21.38	18.87	20.08	19.30	20.47	20.87
	12H	19.47	20.63	19.90	21.01	21.44	18.95	20.11	19.38	20.50	20.93
4H	2H	16.93	18.30	17.33	18.65	19.02	16.58	17.94	16.97	18.29	18.67
	3H	18.90	20.05	19.31	20.45	20.85	18.50	19.64	18.91	20.04	20.44
	4H	19.68	20.72	20.11	21.13	21.57	19.26	20.29	19.69	20.71	21.14
	6H	20.28	21.18	20.73	21.62	22.08	19.84	20.75	20.30	21.19	21.65
	8H	20.47	21.31	20.93	21.76	22.22	20.03	20.87	20.49	21.32	21.78
	12H	20.60	21.36	21.08	21.83	22.30	20.15	20.91	20.63	21.38	21.85
8H	4H	19.95	20.80	20.41	21.24	21.71	19.58	20.43	20.04	20.87	21.33
	6H	20.67	21.37	21.16	21.86	22.33	20.29	20.99	20.78	21.48	21.95
	8H	20.93	21.56	21.44	22.06	22.55	20.54	21.17	21.05	21.67	22.16
	12H	21.13	21.68	21.63	22.18	22.74	20.71	21.27	21.22	21.76	22.32
12H	4H	19.98	20.74	20.46	21.22	21.68	19.61	20.37	20.10	20.85	21.32
	6H	20.71	21.34	21.22	21.85	22.34	20.34	20.98	20.85	21.48	21.97
	8H	21.03	21.58	21.53	22.08	22.64	20.65	21.21	21.16	21.70	22.26