

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: P929955

Luminaire Tested: DFN2DS-4P4F0-040DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929955
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-4P4F0-040DS850-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

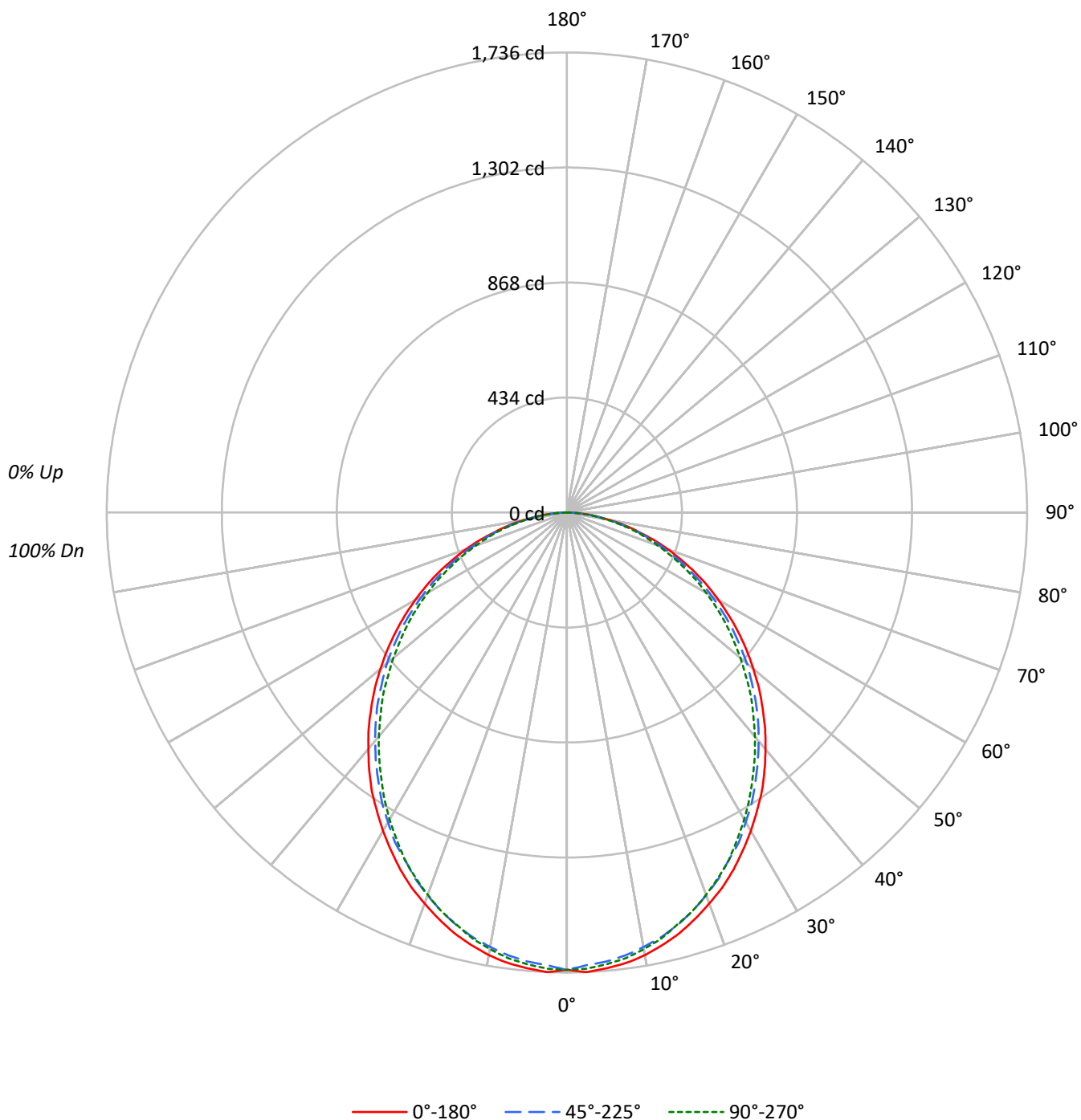
Lumens per Lamp: N/A
Luminaire Lumens: 4391.7 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 39.3
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: P929955

CATALOG NUMBER: DFN2DS-4P4F0-040DS850-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°	1120	1120	1120
5°	1124	1108	1114
10°	1117	1097	1102
15°	1104	1082	1081
20°	1084	1061	1060
25°	1064	1035	1035
30°	1039	1011	1002
35°	1016	982	967
40°	987	953	935
45°	958	924	901
50°	926	895	863
55°	894	860	828
60°	857	818	788
65°	818	777	742
70°	768	727	693
75°	699	670	653
80°	620	601	570
85°	506	482	432

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 958 cd/sqm

TEST NUMBER: P929955

CATALOG NUMBER: DFN2DS-4P4F0-040DS850-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	

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CATALOG NUMBER: DFN2DS-4P4F0-040DS850-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

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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	11.68	13.29	12.04	13.60	13.91	11.23	12.84	11.60	13.16	13.47
	3H	13.43	14.88	13.80	15.21	15.57	12.93	14.39	13.31	14.72	15.08
	4H	14.07	15.44	14.47	15.79	16.17	13.58	14.95	13.98	15.29	15.67
	6H	14.54	15.81	14.95	16.17	16.57	14.04	15.31	14.45	15.67	16.06
	8H	14.68	15.90	15.11	16.28	16.68	14.18	15.39	14.61	15.78	16.18
	12H	14.77	15.93	15.20	16.32	16.74	14.26	15.42	14.69	15.80	16.23
4H	2H	12.24	13.61	12.63	13.95	14.33	11.88	13.25	12.28	13.60	13.98
	3H	14.21	15.36	14.62	15.76	16.16	13.80	14.95	14.21	15.35	15.75
	4H	14.99	16.02	15.42	16.44	16.87	14.56	15.60	15.00	16.01	16.45
	6H	15.58	16.49	16.04	16.93	17.39	15.15	16.06	15.61	16.50	16.95
	8H	15.77	16.62	16.23	17.06	17.53	15.34	16.18	15.80	16.62	17.09
	12H	15.91	16.67	16.39	17.14	17.61	15.45	16.21	15.93	16.69	17.16
8H	4H	15.26	16.11	15.72	16.55	17.02	14.89	15.73	15.35	16.18	16.64
	6H	15.98	16.68	16.47	17.17	17.64	15.59	16.30	16.09	16.79	17.26
	8H	16.23	16.87	16.74	17.37	17.86	15.84	16.47	16.35	16.98	17.47
	12H	16.43	16.99	16.94	17.48	18.04	16.02	16.58	16.53	17.07	17.63
12H	4H	15.29	16.05	15.77	16.52	16.99	14.92	15.68	15.40	16.16	16.63
	6H	16.02	16.65	16.53	17.16	17.65	15.65	16.28	16.16	16.79	17.28
	8H	16.33	16.89	16.84	17.38	17.94	15.96	16.51	16.46	17.00	17.57