

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: P929956

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

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929956
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-4P4F0-040DS850-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

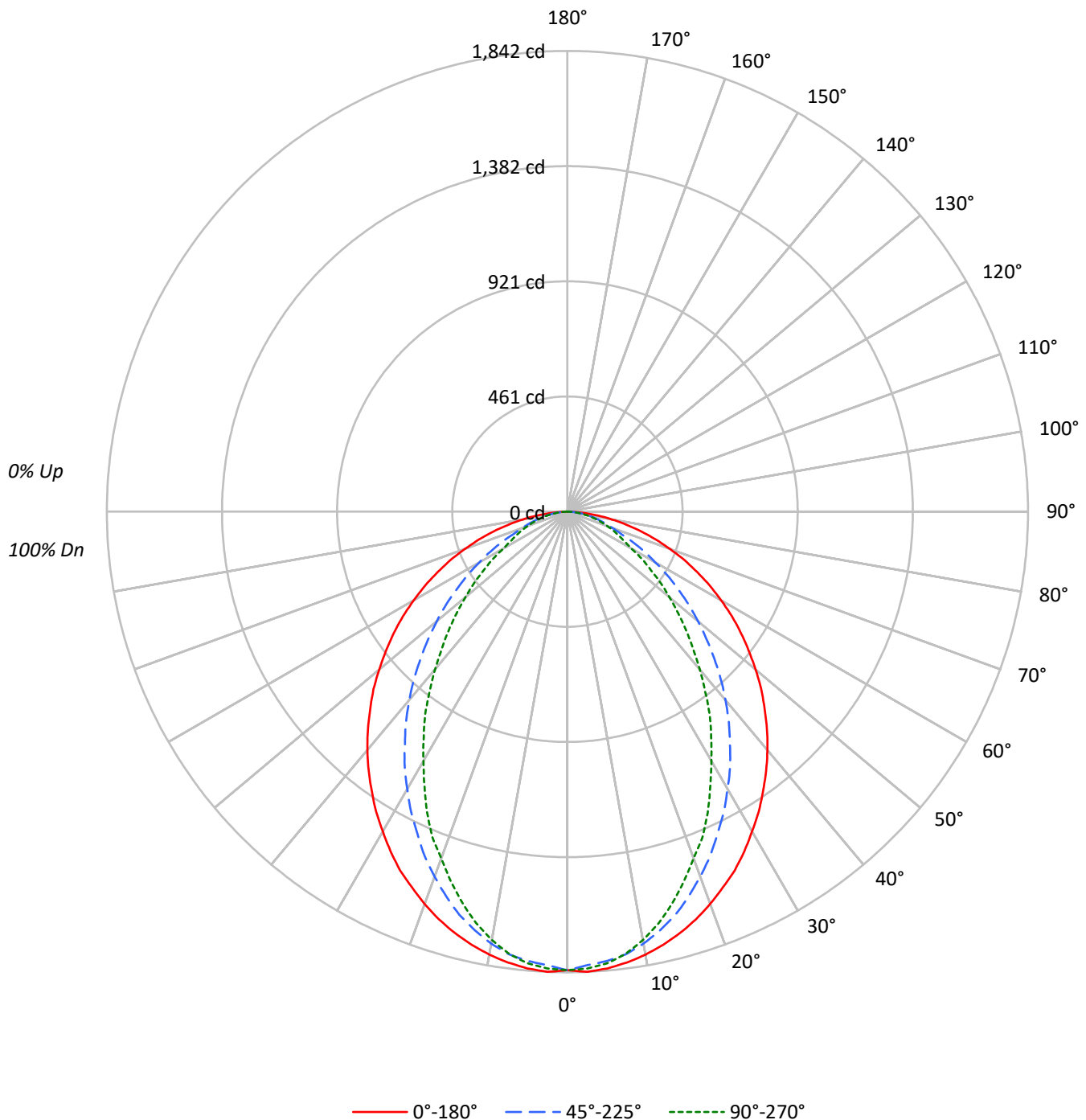
Lumens per Lamp: N/A
Luminaire Lumens: 3770.6 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P929956

CATALOG NUMBER: DFN2DS-4P4F0-040DS850-RLL

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	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°	1189	1189	1189
5°	1194	1174	1181
10°	1185	1155	1145
15°	1171	1121	1089
20°	1152	1072	1018
25°	1133	1017	950
30°	1106	959	863
35°	1080	898	786
40°	1054	833	697
45°	1023	761	616
50°	991	688	538
55°	959	610	462
60°	921	527	383
65°	879	443	349
70°	828	365	321
75°	765	333	300
80°	675	297	273
85°	531	234	234

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1023 cd/sqm

TEST NUMBER: P929956

CATALOG NUMBER: DFN2DS-4P4F0-040DS850-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	4.6
10°-20°	471.7	12.5
20°-30°	662.3	17.6
30°-40°	721.9	19.1
40°-50°	663.5	17.6
50°-60°	521.1	13.8
60°-70°	339.2	9.0
70°-80°	174.6	4.6
80°-90°	44.6	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°	1305.8	34.6
0°-40°	2027.7	53.8
0°-60°	3212.2	85.2
0°-90°	3770.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3770.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1825	1804	1818	1814	174
15°	1744	1726	1669	1638	1621	491
25°	1583	1530	1420	1352	1327	728
35°	1364	1279	1133	1029	992	854
45°	1115	1004	830	712	672	861
55°	848	718	539	440	408	758
65°	572	438	289	232	227	568
75°	305	189	133	121	120	323
85°	71	36	32	32	32	86
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.4	1833.4	1833.4	1833.4	1833.4
2.5°	1841.7	1833.4	1815.1	1831.8	1828.4
5°	1833.4	1825.1	1803.5	1818.4	1813.5
7.5°	1818.4	1808.6	1785.4	1791.8	1783.6
10°	1798.6	1786.9	1753.8	1748.7	1738.9
12.5°	1773.7	1758.8	1713.8	1704.0	1685.7
15°	1743.8	1725.5	1669.2	1637.7	1621.1
17.5°	1709.0	1682.4	1612.6	1576.2	1549.6
20°	1669.2	1635.9	1552.9	1511.6	1475.0
22.5°	1626.0	1587.9	1491.5	1435.2	1410.4
25°	1582.9	1529.8	1420.2	1352.3	1327.3
27.5°	1531.5	1475.0	1353.9	1275.9	1237.6
30°	1476.7	1413.5	1280.8	1196.3	1151.5
32.5°	1423.6	1347.2	1211.2	1111.7	1070.1
35°	1364.0	1279.2	1133.3	1028.7	992.1
37.5°	1305.8	1214.5	1060.2	945.6	904.3
40°	1244.4	1144.9	983.9	866.1	823.0
42.5°	1181.3	1075.2	907.6	784.7	743.4
45°	1115.0	1003.8	829.6	711.8	671.9
47.5°	1052.0	934.2	755.0	637.1	600.6
50°	982.2	864.5	681.9	567.4	532.7
52.5°	914.1	789.7	612.3	502.7	471.2
55°	847.8	718.4	539.2	439.7	408.2
57.5°	779.8	647.1	474.5	381.6	355.1
60°	710.1	577.3	406.4	321.9	295.4
62.5°	642.2	509.5	348.3	268.8	255.6
65°	572.5	437.9	288.7	232.3	227.2
67.5°	506.1	371.6	232.3	204.1	199.1
70°	436.4	307.0	192.4	175.9	169.1
72.5°	370.1	247.2	160.9	147.7	144.4
75°	305.2	189.1	132.7	121.1	119.6
77.5°	240.7	134.3	104.6	97.9	94.5
80°	180.8	96.3	79.5	73.1	73.1
82.5°	126.1	64.8	54.8	51.3	51.3
85°	71.3	36.5	31.5	31.5	31.5
87.5°	26.6	13.2	13.2	11.6	11.6
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	11.84	13.36	12.20	13.67	13.99	7.80	9.32	8.16	9.63	9.95
	3H	13.60	14.97	13.98	15.30	15.66	9.06	10.43	9.44	10.76	11.12
	4H	14.27	15.55	14.67	15.90	16.28	9.56	10.85	9.96	11.19	11.57
	6H	14.76	15.94	15.17	16.31	16.70	9.95	11.13	10.36	11.50	11.89
	8H	14.92	16.05	15.35	16.44	16.84	10.07	11.20	10.50	11.59	11.99
	12H	15.03	16.11	15.46	16.49	16.92	10.15	11.23	10.58	11.61	12.04
4H	2H	11.94	13.22	12.34	13.57	13.95	8.49	9.77	8.89	10.12	10.50
	3H	13.87	14.94	14.29	15.34	15.74	9.94	11.00	10.35	11.40	11.80
	4H	14.62	15.58	15.06	16.00	16.43	10.54	11.49	10.97	11.91	12.35
	6H	15.22	16.05	15.67	16.49	16.95	11.02	11.86	11.48	12.30	12.76
	8H	15.43	16.21	15.89	16.65	17.12	11.19	11.96	11.65	12.41	12.87
	12H	15.58	16.28	16.07	16.76	17.23	11.30	12.00	11.79	12.48	12.95
8H	4H	14.65	15.43	15.11	15.87	16.34	10.89	11.67	11.35	12.11	12.58
	6H	15.29	15.93	15.78	16.42	16.90	11.48	12.12	11.97	12.61	13.09
	8H	15.54	16.11	16.05	16.62	17.11	11.70	12.27	12.21	12.78	13.27
	12H	15.74	16.25	16.25	16.74	17.31	11.88	12.39	12.39	12.88	13.44
12H	4H	14.63	15.33	15.11	15.81	16.28	10.93	11.63	11.42	12.11	12.58
	6H	15.27	15.84	15.78	16.35	16.84	11.54	12.12	12.05	12.63	13.12
	8H	15.55	16.06	16.06	16.55	17.12	11.81	12.32	12.32	12.81	13.38

END OF REPORT