

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: P929968

Luminaire Tested: DFN2DS-4P4F0-050DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929968
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-4P4F0-050DS830-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

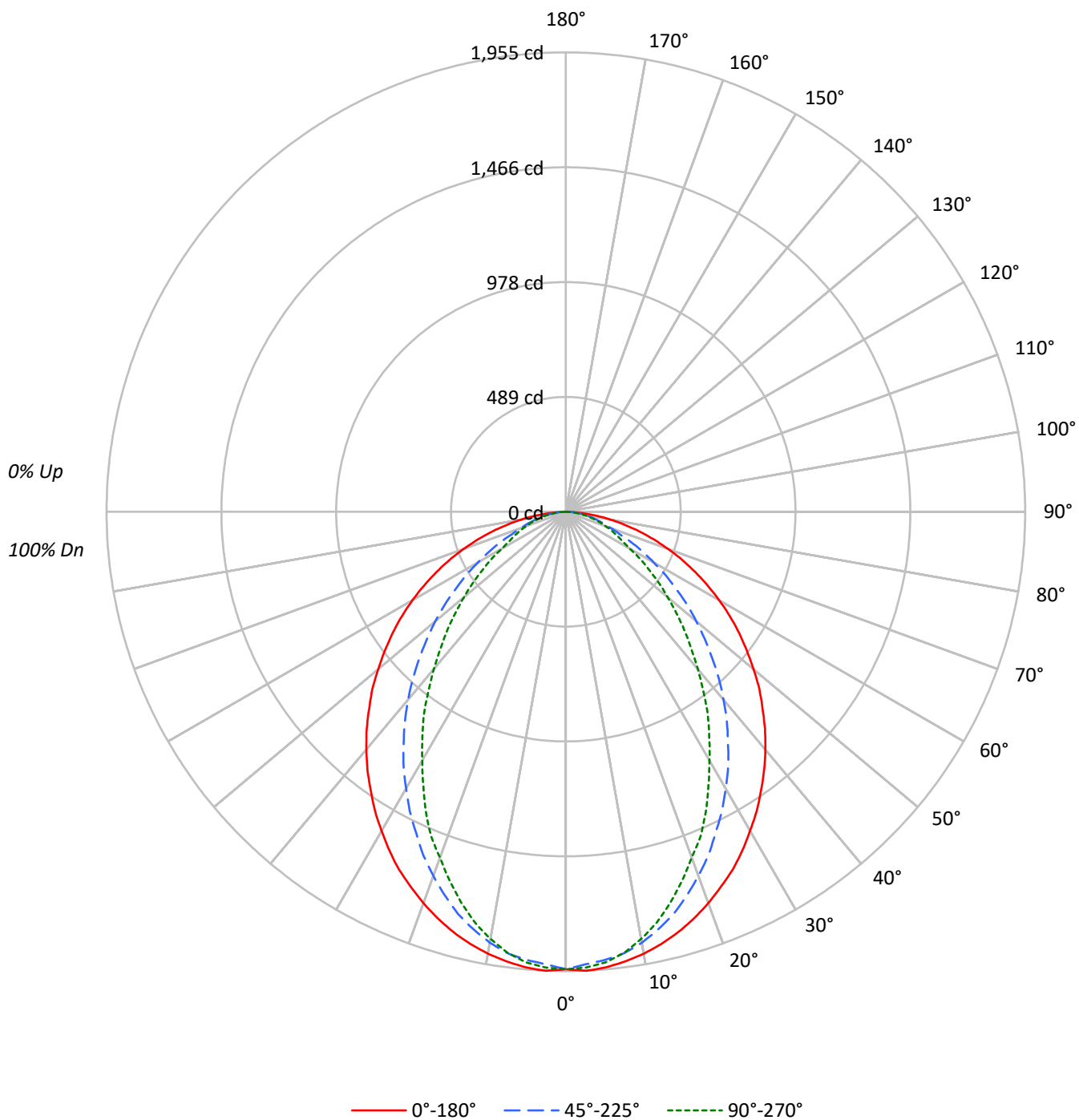
Lumens per Lamp: N/A
Luminaire Lumens: 4003.5 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929968

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P929968

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-RLL

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°	1263	1263	1263
5°	1268	1247	1254
10°	1258	1227	1216
15°	1244	1190	1156
20°	1224	1138	1081
25°	1203	1079	1009
30°	1175	1019	916
35°	1147	953	834
40°	1119	885	740
45°	1086	808	655
50°	1053	731	571
55°	1018	648	490
60°	978	560	407
65°	933	470	370
70°	879	388	341
75°	812	353	318
80°	717	316	290
85°	563	249	249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1086 cd/sqm

TEST NUMBER: P929968

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.4	4.6
10°-20°	500.8	12.5
20°-30°	703.2	17.6
30°-40°	766.5	19.1
40°-50°	704.5	17.6
50°-60°	553.3	13.8
60°-70°	360.1	9.0
70°-80°	185.4	4.6
80°-90°	47.3	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°	1386.4	34.6
0°-40°	2152.9	53.8
0°-60°	3410.7	85.2
0°-90°	4003.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4003.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1947	1938	1915	1931	1926	185
15°	1852	1832	1772	1739	1721	522
25°	1681	1624	1508	1436	1409	773
35°	1448	1358	1203	1092	1053	906
45°	1184	1066	881	756	713	914
55°	900	763	572	467	433	804
65°	608	465	306	247	241	603
75°	324	201	141	129	127	343
85°	76	39	33	33	33	91
90°	0	0	0	0	0	

TEST NUMBER: P929968

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1946.6	1946.6	1946.6	1946.6	1946.6
2.5°	1955.4	1946.6	1927.2	1944.9	1941.4
5°	1946.6	1937.9	1914.9	1930.7	1925.5
7.5°	1930.7	1920.3	1895.6	1902.6	1893.7
10°	1909.6	1897.3	1862.1	1856.8	1846.2
12.5°	1883.2	1867.4	1819.8	1809.3	1789.8
15°	1851.5	1832.1	1772.3	1738.8	1721.2
17.5°	1814.5	1786.3	1712.3	1673.6	1645.3
20°	1772.3	1737.0	1648.9	1605.0	1566.1
22.5°	1726.5	1685.9	1583.7	1523.9	1497.5
25°	1680.6	1624.2	1508.0	1435.8	1409.2
27.5°	1626.1	1566.1	1437.5	1354.7	1314.2
30°	1568.0	1500.9	1360.0	1270.2	1222.5
32.5°	1511.5	1430.4	1286.1	1180.3	1136.2
35°	1448.1	1358.3	1203.3	1092.2	1053.4
37.5°	1386.4	1289.5	1125.8	1004.1	960.2
40°	1321.2	1215.7	1044.6	919.6	873.8
42.5°	1254.4	1141.6	963.7	833.2	789.3
45°	1183.9	1065.8	880.9	755.7	713.4
47.5°	1116.9	991.9	801.6	676.5	637.7
50°	1043.0	917.9	724.1	602.4	565.6
52.5°	970.6	838.5	650.1	533.8	500.4
55°	900.2	762.7	572.5	466.9	433.4
57.5°	828.0	687.1	503.9	405.2	377.0
60°	754.0	613.1	431.5	341.9	313.6
62.5°	681.8	540.9	369.9	285.4	271.4
65°	607.8	465.1	306.5	246.7	241.3
67.5°	537.3	394.6	246.7	216.7	211.4
70°	463.4	325.9	204.3	186.7	179.6
72.5°	392.9	262.4	170.9	156.8	153.3
75°	324.1	200.7	140.9	128.6	126.9
77.5°	255.5	142.6	111.1	103.9	100.3
80°	192.0	102.2	84.5	77.5	77.5
82.5°	133.9	68.8	58.1	54.5	54.5
85°	75.7	38.7	33.4	33.4	33.4
87.5°	28.3	14.0	14.0	12.3	12.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929968

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-RLL

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	12.05	13.57	12.41	13.88	14.20	8.01	9.53	8.37	9.84	10.16
	3H	13.81	15.18	14.19	15.50	15.87	9.27	10.64	9.65	10.96	11.33
	4H	14.48	15.76	14.88	16.11	16.48	9.77	11.05	10.17	11.40	11.78
	6H	14.97	16.15	15.38	16.52	16.91	10.15	11.34	10.57	11.70	12.09
	8H	15.13	16.26	15.56	16.65	17.05	10.28	11.40	10.70	11.79	12.19
	12H	15.23	16.31	15.67	16.70	17.12	10.36	11.44	10.79	11.82	12.25
4H	2H	12.15	13.43	12.55	13.78	14.16	8.70	9.98	9.10	10.33	10.71
	3H	14.08	15.15	14.49	15.55	15.95	10.14	11.21	10.56	11.61	12.01
	4H	14.83	15.79	15.26	16.20	16.64	10.74	11.70	11.18	12.12	12.55
	6H	15.42	16.26	15.88	16.70	17.16	11.23	12.06	11.69	12.51	12.97
	8H	15.64	16.42	16.10	16.86	17.33	11.39	12.17	11.86	12.61	13.08
	12H	15.79	16.49	16.27	16.97	17.44	11.51	12.20	11.99	12.68	13.15
8H	4H	14.86	15.63	15.32	16.08	16.55	11.10	11.88	11.56	12.32	12.79
	6H	15.49	16.14	15.99	16.63	17.10	11.68	12.33	12.18	12.82	13.30
	8H	15.74	16.32	16.26	16.83	17.32	11.90	12.48	12.42	12.99	13.48
	12H	15.95	16.46	16.46	16.95	17.52	12.08	12.59	12.59	13.09	13.65
12H	4H	14.84	15.54	15.32	16.01	16.48	11.14	11.84	11.62	12.31	12.79
	6H	15.47	16.05	15.99	16.56	17.05	11.75	12.32	12.26	12.83	13.32
	8H	15.76	16.27	16.27	16.76	17.33	12.02	12.53	12.53	13.02	13.59

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

7 of 7