

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: P929979

Luminaire Tested: DFN2DS-4P4F0-050DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929979
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-4P4F0-050DS935-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

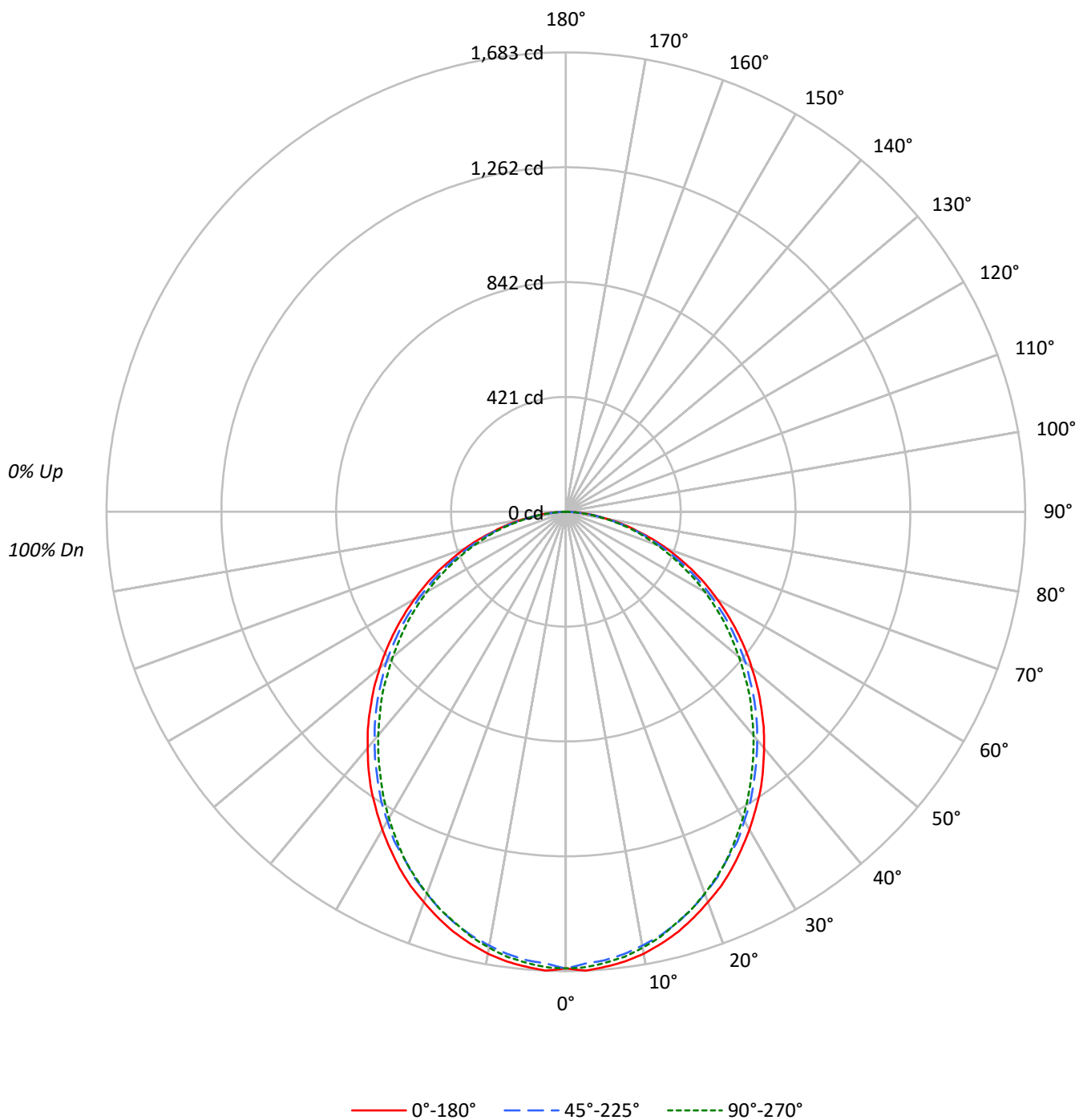
Lumens per Lamp: N/A
Luminaire Lumens: 4257.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	1085	1085	1085
5°	1090	1074	1080
10°	1083	1063	1068
15°	1070	1049	1048
20°	1051	1029	1027
25°	1032	1003	1003
30°	1008	980	971
35°	985	952	938
40°	957	924	906
45°	928	896	874
50°	898	867	836
55°	866	833	803
60°	831	793	764
65°	793	753	719
70°	745	705	672
75°	677	649	633
80°	601	583	553
85°	491	467	419

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 928 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.5	3.7
10°-20°	443.1	10.4
20°-30°	651.1	15.3
30°-40°	756.3	17.8
40°-50°	755.3	17.7
50°-60°	658.6	15.5
60°-70°	486.9	11.4
70°-80°	275.5	6.5
80°-90°	72.7	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°	1251.7	29.4
0°-40°	2008.0	47.2
0°-60°	3421.9	80.4
0°-90°	4257.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4257.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1673	1673	1673	1673	1673	
5°	1673	1667	1649	1662	1659	159
15°	1593	1583	1562	1569	1561	449
25°	1442	1429	1401	1404	1401	663
35°	1244	1228	1202	1192	1184	777
45°	1012	1001	976	959	952	781
55°	766	756	737	718	710	685
65°	516	507	491	476	468	511
75°	270	267	259	249	253	288
85°	66	64	63	58	56	77
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1673.1	1673.1	1673.1	1673.1	1673.1
2.5°	1682.8	1674.8	1657.1	1673.1	1670.1
5°	1673.1	1666.9	1649.0	1661.9	1658.9
7.5°	1661.9	1652.3	1634.6	1647.6	1644.3
10°	1644.3	1633.1	1613.8	1626.5	1621.8
12.5°	1620.1	1610.5	1591.3	1599.3	1596.0
15°	1592.7	1583.2	1562.2	1568.7	1560.6
17.5°	1558.9	1549.4	1528.4	1536.4	1528.4
20°	1521.9	1512.4	1489.9	1494.6	1488.3
22.5°	1485.0	1470.5	1449.5	1449.5	1446.3
25°	1441.5	1428.7	1401.4	1404.5	1401.4
27.5°	1393.2	1381.9	1361.1	1356.3	1348.3
30°	1345.0	1332.1	1308.1	1303.2	1296.8
32.5°	1293.5	1284.0	1258.2	1248.5	1242.0
35°	1243.6	1227.6	1201.8	1192.1	1184.1
37.5°	1187.3	1172.9	1147.1	1135.8	1127.8
40°	1129.5	1116.5	1090.7	1076.4	1069.9
42.5°	1073.2	1060.2	1034.6	1018.3	1008.8
45°	1012.0	1000.8	976.5	959.0	952.4
47.5°	952.4	941.2	915.5	897.7	888.1
50°	889.7	881.7	859.1	836.6	828.5
52.5°	828.5	817.3	796.4	778.7	767.5
55°	765.9	756.2	736.8	717.6	709.6
57.5°	703.0	695.1	674.1	654.8	648.3
60°	640.3	634.0	611.5	593.7	588.9
62.5°	579.2	567.9	551.9	535.8	529.3
65°	516.5	506.8	490.7	476.3	468.2
67.5°	452.2	444.0	429.7	418.4	411.9
70°	392.6	386.1	371.6	360.3	354.1
72.5°	331.5	325.0	317.0	305.7	300.9
75°	270.2	267.1	258.9	249.4	252.7
77.5°	215.6	209.1	205.9	201.1	196.3
80°	161.0	159.3	156.0	151.3	148.0
82.5°	109.4	109.4	107.8	101.4	101.4
85°	65.9	64.3	62.8	57.9	56.3
87.5°	29.0	25.8	22.5	17.7	16.1
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	11.57	13.18	11.93	13.49	13.81	11.12	12.73	11.49	13.05	13.36
	3H	13.32	14.77	13.69	15.10	15.46	12.83	14.28	13.20	14.61	14.97
	4H	13.96	15.33	14.36	15.68	16.06	13.47	14.84	13.87	15.19	15.56
	6H	14.43	15.70	14.84	16.07	16.46	13.93	15.20	14.34	15.57	15.96
	8H	14.58	15.79	15.00	16.18	16.58	14.07	15.28	14.50	15.67	16.07
	12H	14.67	15.83	15.10	16.21	16.64	14.15	15.31	14.58	15.70	16.12
4H	2H	12.13	13.50	12.53	13.84	14.22	11.77	13.14	12.17	13.49	13.87
	3H	14.10	15.25	14.51	15.65	16.05	13.70	14.84	14.11	15.24	15.64
	4H	14.88	15.92	15.31	16.33	16.77	14.46	15.49	14.89	15.91	16.34
	6H	15.48	16.38	15.93	16.82	17.28	15.04	15.95	15.50	16.39	16.85
	8H	15.67	16.51	16.13	16.95	17.42	15.23	16.07	15.69	16.52	16.98
	12H	15.80	16.56	16.28	17.03	17.50	15.35	16.11	15.83	16.58	17.05
8H	4H	15.15	16.00	15.61	16.44	16.91	14.78	15.63	15.24	16.07	16.53
	6H	15.87	16.57	16.36	17.06	17.53	15.49	16.19	15.98	16.68	17.15
	8H	16.13	16.76	16.64	17.26	17.75	15.73	16.37	16.24	16.87	17.36
	12H	16.33	16.88	16.83	17.37	17.94	15.91	16.47	16.42	16.96	17.52
12H	4H	15.18	15.94	15.66	16.41	16.88	14.81	15.57	15.29	16.05	16.52
	6H	15.91	16.54	16.42	17.05	17.54	15.54	16.18	16.05	16.68	17.17
	8H	16.23	16.78	16.73	17.27	17.84	15.85	16.41	16.36	16.90	17.46