

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: P929912

Luminaire Tested: DFN2DS-4P3F0-050DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929912
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-4P3F0-050DS950-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

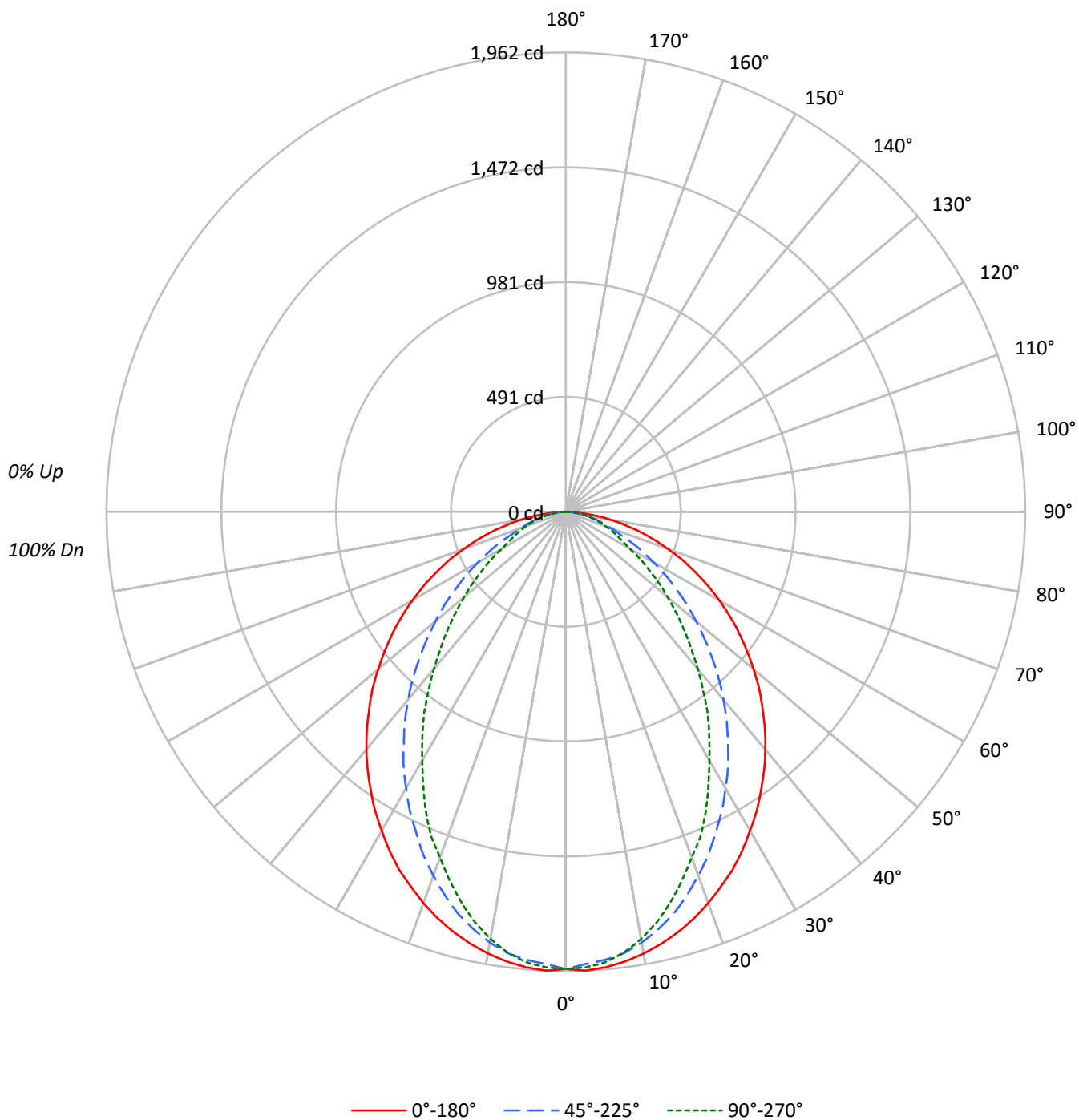
Lumens per Lamp: N/A
Luminaire Lumens: 4016.3 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 51.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	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°	2225	2225	2225
5°	2234	2198	2210
10°	2217	2162	2143
15°	2191	2098	2037
20°	2156	2006	1905
25°	2120	1902	1778
30°	2070	1795	1614
35°	2021	1679	1470
40°	1972	1559	1304
45°	1914	1424	1153
50°	1855	1288	1006
55°	1794	1141	864
60°	1724	987	717
65°	1644	829	653
70°	1549	683	600
75°	1432	623	561
80°	1264	557	511
85°	994	438	438

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1914 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	4.6
10°-20°	502.4	12.5
20°-30°	705.4	17.6
30°-40°	768.9	19.1
40°-50°	706.7	17.6
50°-60°	555.0	13.8
60°-70°	361.3	9.0
70°-80°	186.0	4.6
80°-90°	47.5	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°	1390.9	34.6
0°-40°	2159.8	53.8
0°-60°	3421.5	85.2
0°-90°	4016.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4016.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1953	1953	1953	1953	1953	
5°	1953	1944	1921	1937	1932	185
15°	1857	1838	1778	1744	1727	523
25°	1686	1629	1513	1440	1414	775
35°	1453	1363	1207	1096	1057	909
45°	1188	1069	884	758	716	917
55°	903	765	574	468	435	807
65°	610	466	308	248	242	604
75°	325	201	141	129	127	344
85°	76	39	34	34	34	91
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1952.8	1952.8	1952.8	1952.8	1952.8
2.5°	1961.6	1952.8	1933.4	1951.1	1947.6
5°	1952.8	1944.1	1921.0	1936.9	1931.7
7.5°	1936.9	1926.4	1901.6	1908.6	1899.7
10°	1915.7	1903.3	1868.1	1862.7	1852.1
12.5°	1889.2	1873.4	1825.6	1815.1	1795.5
15°	1857.4	1837.9	1777.9	1744.4	1726.7
17.5°	1820.3	1792.0	1717.7	1678.9	1650.5
20°	1777.9	1742.5	1654.1	1610.1	1571.1
22.5°	1732.0	1691.3	1588.7	1528.7	1502.3
25°	1686.0	1629.4	1512.8	1440.4	1413.7
27.5°	1631.3	1571.1	1442.1	1359.0	1318.4
30°	1573.0	1505.7	1364.3	1274.2	1226.4
32.5°	1516.3	1435.0	1290.2	1184.1	1139.9
35°	1452.7	1362.6	1207.1	1095.7	1056.8
37.5°	1390.9	1293.6	1129.4	1007.3	963.2
40°	1325.5	1219.5	1047.9	922.5	876.6
42.5°	1258.4	1145.2	966.7	835.9	791.8
45°	1187.7	1069.2	883.7	758.1	715.6
47.5°	1120.5	995.1	804.2	678.6	639.8
50°	1046.3	920.8	726.4	604.3	567.4
52.5°	973.7	841.1	652.1	535.5	502.0
55°	903.0	765.2	574.3	468.3	434.8
57.5°	830.7	689.3	505.5	406.5	378.2
60°	756.4	615.0	432.9	342.9	314.6
62.5°	684.0	542.6	371.1	286.3	272.3
65°	609.7	466.5	307.5	247.5	242.1
67.5°	539.0	395.9	247.5	217.4	212.1
70°	464.8	327.0	205.0	187.3	180.2
72.5°	394.2	263.3	171.4	157.3	153.8
75°	325.2	201.4	141.4	129.0	127.3
77.5°	256.3	143.1	111.4	104.2	100.6
80°	192.6	102.5	84.8	77.8	77.8
82.5°	134.3	69.0	58.3	54.7	54.7
85°	76.0	38.8	33.5	33.5	33.5
87.5°	28.4	14.1	14.1	12.4	12.4
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	14.01	15.54	14.38	15.85	16.16	9.97	11.50	10.34	11.81	12.12
	3H	15.78	17.14	16.16	17.47	17.83	11.24	12.61	11.62	12.93	13.29
	4H	16.45	17.73	16.85	18.08	18.45	11.74	13.02	12.14	13.37	13.75
	6H	16.93	18.12	17.35	18.48	18.88	12.12	13.31	12.53	13.67	14.06
	8H	17.10	18.23	17.53	18.62	19.02	12.25	13.37	12.67	13.76	14.16
	12H	17.20	18.28	17.63	18.66	19.09	12.33	13.41	12.76	13.79	14.22
4H	2H	14.12	15.40	14.52	15.75	16.13	10.67	11.95	11.07	12.30	12.68
	3H	16.05	17.11	16.46	17.51	17.92	12.11	13.18	12.52	13.58	13.98
	4H	16.80	17.76	17.23	18.17	18.61	12.71	13.67	13.15	14.08	14.52
	6H	17.39	18.22	17.85	18.67	19.13	13.20	14.03	13.66	14.48	14.93
	8H	17.61	18.38	18.07	18.83	19.30	13.36	14.14	13.83	14.58	15.05
	12H	17.76	18.46	18.24	18.93	19.40	13.48	14.17	13.96	14.65	15.12
8H	4H	16.83	17.60	17.29	18.05	18.51	13.07	13.84	13.53	14.29	14.76
	6H	17.46	18.11	17.96	18.60	19.07	13.65	14.30	14.15	14.79	15.26
	8H	17.71	18.29	18.23	18.80	19.29	13.87	14.45	14.39	14.96	15.45
	12H	17.92	18.43	18.43	18.92	19.48	14.05	14.56	14.56	15.05	15.62
12H	4H	16.81	17.50	17.29	17.98	18.45	13.11	13.80	13.59	14.28	14.75
	6H	17.44	18.02	17.96	18.53	19.02	13.72	14.29	14.23	14.80	15.29
	8H	17.73	18.24	18.24	18.73	19.29	13.99	14.50	14.50	14.99	15.56