

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: P929983

Luminaire Tested: DFN2DS-4P4F0-050DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929983
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-4P4F0-050DS950-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

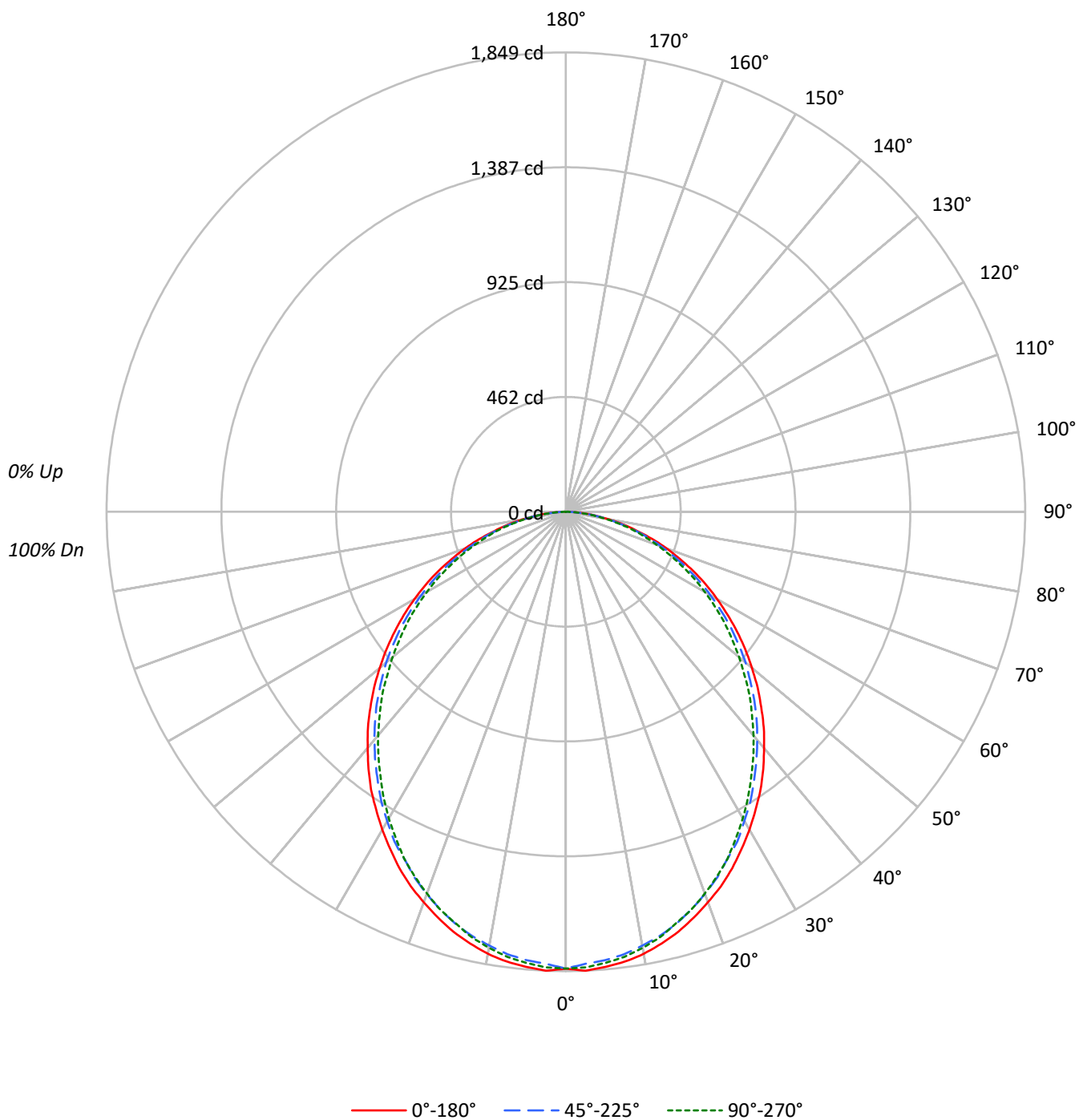
Lumens per Lamp: N/A
Luminaire Lumens: 4677.7 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1193	1193	1193
5°	1197	1180	1187
10°	1190	1168	1174
15°	1175	1153	1152
20°	1155	1130	1129
25°	1134	1102	1102
30°	1107	1077	1067
35°	1082	1046	1031
40°	1051	1015	996
45°	1020	984	960
50°	987	953	919
55°	952	916	882
60°	913	872	840
65°	871	828	790
70°	818	774	738
75°	744	713	696
80°	661	640	607
85°	539	514	461

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1020 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	3.7
10°-20°	486.9	10.4
20°-30°	715.5	15.3
30°-40°	831.0	17.8
40°-50°	830.0	17.7
50°-60°	723.7	15.5
60°-70°	535.0	11.4
70°-80°	302.7	6.5
80°-90°	79.9	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°	1375.4	29.4
0°-40°	2206.5	47.2
0°-60°	3760.2	80.4
0°-90°	4677.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4677.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1838	1832	1812	1826	1823	175
15°	1750	1740	1717	1724	1715	493
25°	1584	1570	1540	1543	1540	729
35°	1367	1349	1321	1310	1301	853
45°	1112	1100	1073	1054	1047	858
55°	842	831	810	788	780	752
65°	568	557	539	523	514	561
75°	297	294	284	274	278	317
85°	72	71	69	64	62	85
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1838.5	1838.5	1838.5	1838.5	1838.5
2.5°	1849.2	1840.4	1820.9	1838.5	1835.2
5°	1838.5	1831.6	1812.0	1826.1	1822.8
7.5°	1826.1	1815.6	1796.2	1810.4	1806.8
10°	1806.8	1794.5	1773.3	1787.3	1782.1
12.5°	1780.2	1769.7	1748.5	1757.3	1753.7
15°	1750.1	1739.7	1716.6	1723.8	1714.9
17.5°	1713.0	1702.5	1679.5	1688.2	1679.5
20°	1672.4	1661.9	1637.1	1642.3	1635.4
22.5°	1631.8	1615.9	1592.8	1592.8	1589.2
25°	1584.0	1569.9	1539.9	1543.3	1539.9
27.5°	1530.9	1518.5	1495.7	1490.4	1481.6
30°	1478.0	1463.8	1437.3	1432.1	1425.0
32.5°	1421.4	1410.9	1382.5	1371.9	1364.8
35°	1366.6	1349.0	1320.6	1310.0	1301.2
37.5°	1304.7	1288.8	1260.4	1248.1	1239.3
40°	1241.2	1226.9	1198.5	1182.8	1175.7
42.5°	1179.3	1165.0	1136.8	1119.0	1108.5
45°	1112.1	1099.7	1073.0	1053.8	1046.6
47.5°	1046.6	1034.2	1006.0	986.4	975.9
50°	977.6	968.8	944.1	919.3	910.4
52.5°	910.4	898.0	875.2	855.7	843.3
55°	841.6	830.9	809.7	788.5	779.7
57.5°	772.5	763.7	740.7	719.5	712.3
60°	703.6	696.7	671.9	652.3	647.1
62.5°	636.5	624.1	606.4	588.7	581.6
65°	567.6	556.9	539.2	523.3	514.5
67.5°	496.9	487.9	472.1	459.7	452.6
70°	431.4	424.3	408.3	396.0	389.1
72.5°	364.3	357.1	348.3	335.9	330.7
75°	296.9	293.5	284.5	274.0	277.6
77.5°	236.9	229.7	226.2	220.9	215.7
80°	176.9	175.0	171.4	166.2	162.6
82.5°	120.2	120.2	118.5	111.4	111.4
85°	72.4	70.7	69.0	63.6	61.9
87.5°	31.8	28.4	24.8	19.5	17.7
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	11.89	13.51	12.26	13.82	14.13	11.45	13.06	11.82	13.38	13.69
	3H	13.64	15.10	14.02	15.43	15.79	13.15	14.61	13.53	14.94	15.30
	4H	14.29	15.66	14.69	16.01	16.38	13.80	15.17	14.19	15.51	15.89
	6H	14.76	16.03	15.17	16.39	16.78	14.26	15.53	14.67	15.89	16.28
	8H	14.90	16.11	15.33	16.50	16.90	14.40	15.61	14.83	16.00	16.40
	12H	14.99	16.15	15.42	16.54	16.96	14.48	15.64	14.91	16.02	16.45
4H	2H	12.45	13.82	12.85	14.17	14.55	12.10	13.47	12.50	13.82	14.20
	3H	14.43	15.58	14.84	15.97	16.37	14.02	15.17	14.43	15.57	15.97
	4H	15.21	16.24	15.64	16.66	17.09	14.78	15.82	15.21	16.23	16.67
	6H	15.80	16.71	16.26	17.15	17.60	15.37	16.28	15.83	16.72	17.17
	8H	15.99	16.84	16.45	17.28	17.75	15.55	16.40	16.02	16.84	17.31
	12H	16.12	16.88	16.60	17.36	17.83	15.67	16.43	16.15	16.91	17.38
8H	4H	15.48	16.33	15.94	16.77	17.23	15.11	15.95	15.57	16.39	16.86
	6H	16.19	16.90	16.69	17.39	17.86	15.81	16.52	16.31	17.00	17.48
	8H	16.45	17.08	16.96	17.59	18.08	16.06	16.69	16.57	17.20	17.69
	12H	16.65	17.21	17.16	17.70	18.26	16.24	16.80	16.75	17.29	17.85
12H	4H	15.51	16.27	15.99	16.74	17.21	15.14	15.90	15.62	16.38	16.85
	6H	16.24	16.87	16.75	17.38	17.86	15.87	16.50	16.38	17.01	17.50
	8H	16.55	17.11	17.06	17.60	18.16	16.18	16.73	16.68	17.22	17.79