

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: P929883

Luminaire Tested: DFN2DS-4P3F0-040DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929883
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-4P3F0-040DS850-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

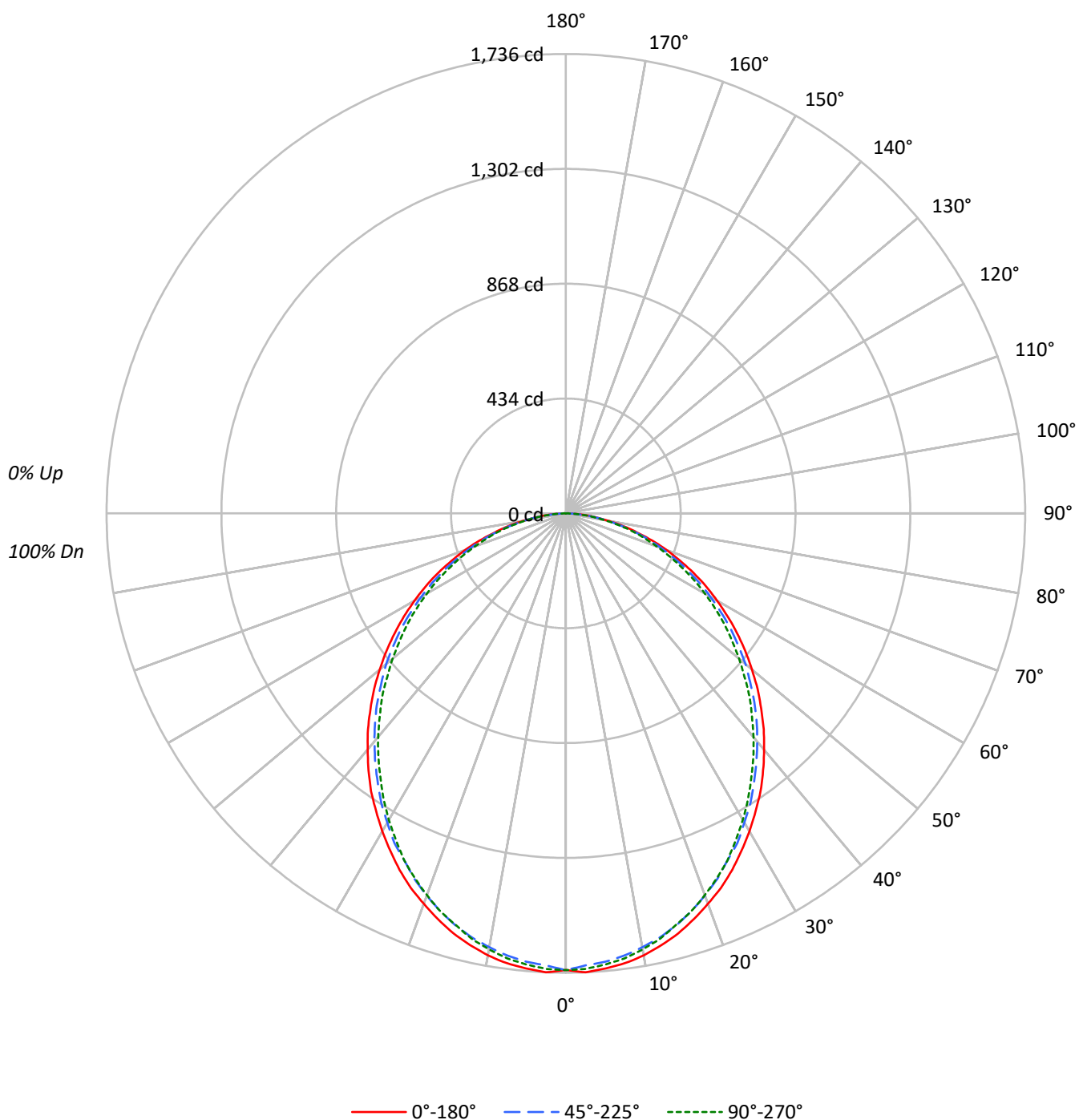
Lumens per Lamp: N/A
Luminaire Lumens: 4391.7 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 40.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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°	1967	1967	1967
5°	1974	1946	1958
10°	1963	1926	1936
15°	1939	1901	1899
20°	1904	1864	1862
25°	1870	1818	1818
30°	1826	1776	1760
35°	1785	1725	1699
40°	1733	1674	1642
45°	1683	1624	1584
50°	1627	1571	1515
55°	1570	1510	1455
60°	1505	1438	1385
65°	1437	1365	1303
70°	1349	1277	1217
75°	1228	1176	1147
80°	1089	1056	1002
85°	889	847	760

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1683 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	3.7
10°-20°	457.1	10.4
20°-30°	671.7	15.3
30°-40°	780.2	17.8
40°-50°	779.2	17.7
50°-60°	679.5	15.5
60°-70°	502.3	11.4
70°-80°	284.2	6.5
80°-90°	75.0	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°	1291.3	29.4
0°-40°	2071.5	47.2
0°-60°	3530.2	80.4
0°-90°	4391.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4391.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1726	1720	1701	1714	1711	164
15°	1643	1633	1612	1618	1610	463
25°	1487	1474	1446	1449	1446	684
35°	1283	1266	1240	1230	1222	801
45°	1044	1032	1007	989	983	806
55°	790	780	760	740	732	706
65°	533	523	506	491	483	527
75°	279	276	267	257	261	298
85°	68	66	65	60	58	80
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1726.0	1726.0	1726.0	1726.0	1726.0
2.5°	1736.1	1727.8	1709.5	1726.0	1722.9
5°	1726.0	1719.5	1701.2	1714.4	1711.3
7.5°	1714.4	1704.5	1686.2	1699.7	1696.3
10°	1696.3	1684.7	1664.8	1678.0	1673.0
12.5°	1671.3	1661.4	1641.5	1649.9	1646.4
15°	1643.1	1633.2	1611.6	1618.3	1610.0
17.5°	1608.3	1598.4	1576.8	1585.0	1576.8
20°	1570.0	1560.1	1537.0	1541.8	1535.4
22.5°	1532.0	1517.0	1495.4	1495.4	1492.0
25°	1487.1	1473.9	1445.7	1448.9	1445.7
27.5°	1437.3	1425.6	1404.2	1399.2	1391.0
30°	1387.6	1374.3	1349.4	1344.4	1337.8
32.5°	1334.5	1324.6	1298.0	1288.0	1281.2
35°	1283.0	1266.5	1239.9	1229.9	1221.6
37.5°	1224.9	1209.9	1183.3	1171.8	1163.5
40°	1165.2	1151.8	1125.2	1110.4	1103.8
42.5°	1107.1	1093.7	1067.3	1050.6	1040.7
45°	1044.0	1032.5	1007.4	989.3	982.6
47.5°	982.6	970.9	944.4	926.1	916.3
50°	917.8	909.5	886.3	863.0	854.7
52.5°	854.7	843.2	821.7	803.4	791.7
55°	790.2	780.1	760.2	740.3	732.1
57.5°	725.3	717.1	695.3	675.5	668.8
60°	660.5	654.0	630.8	612.5	607.5
62.5°	597.5	585.9	569.4	552.7	546.1
65°	532.9	522.8	506.3	491.3	483.1
67.5°	466.4	458.0	443.3	431.6	425.0
70°	405.0	398.4	383.4	371.7	365.2
72.5°	342.0	335.3	327.0	315.4	310.4
75°	278.8	275.6	267.2	257.3	260.6
77.5°	222.4	215.7	212.4	207.4	202.5
80°	166.0	164.2	160.9	156.0	152.7
82.5°	112.9	112.9	111.3	104.6	104.6
85°	68.0	66.4	64.8	59.7	58.1
87.5°	29.9	26.6	23.3	18.3	16.5
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	13.63	15.24	14.00	15.56	15.87	13.19	14.80	13.55	15.11	15.43
	3H	15.38	16.84	15.76	17.16	17.52	14.89	16.35	15.27	16.67	17.03
	4H	16.03	17.40	16.43	17.75	18.12	15.53	16.90	15.93	17.25	17.63
	6H	16.50	17.77	16.91	18.13	18.52	16.00	17.27	16.41	17.63	18.02
	8H	16.64	17.85	17.07	18.24	18.64	16.14	17.35	16.56	17.74	18.14
	12H	16.73	17.89	17.16	18.27	18.70	16.22	17.38	16.65	17.76	18.19
4H	2H	14.19	15.56	14.59	15.91	16.29	13.84	15.21	14.24	15.56	15.93
	3H	16.17	17.32	16.58	17.71	18.11	15.76	16.91	16.17	17.31	17.71
	4H	16.95	17.98	17.38	18.39	18.83	16.52	17.56	16.95	17.97	18.41
	6H	17.54	18.45	18.00	18.89	19.34	17.11	18.01	17.56	18.45	18.91
	8H	17.73	18.58	18.19	19.02	19.49	17.29	18.14	17.75	18.58	19.05
	12H	17.86	18.62	18.34	19.10	19.57	17.41	18.17	17.89	18.65	19.12
8H	4H	17.22	18.07	17.68	18.51	18.97	16.84	17.69	17.31	18.13	18.60
	6H	17.93	18.64	18.43	19.12	19.60	17.55	18.25	18.04	18.74	19.22
	8H	18.19	18.82	18.70	19.33	19.82	17.80	18.43	18.31	18.94	19.42
	12H	18.39	18.95	18.90	19.44	20.00	17.98	18.54	18.49	19.03	19.59
12H	4H	17.24	18.00	17.72	18.48	18.95	16.88	17.64	17.36	18.12	18.59
	6H	17.98	18.61	18.49	19.12	19.60	17.61	18.24	18.12	18.75	19.23
	8H	18.29	18.85	18.80	19.34	19.90	17.91	18.47	18.42	18.96	19.52