

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: P930299

Luminaire Tested: DFN2DS-HX4F0-060DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930299
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-HX4F0-060DS927-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

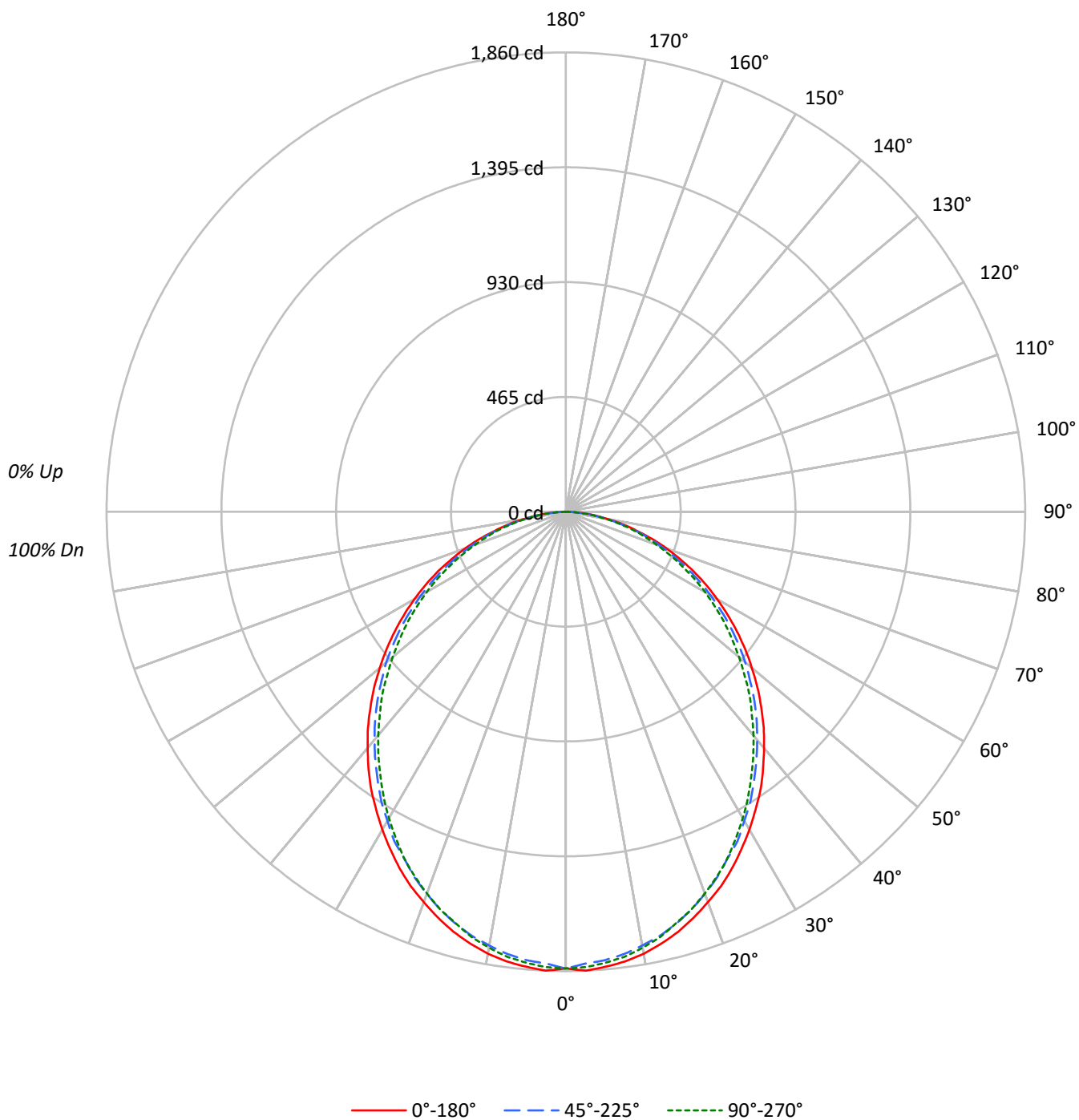
Lumens per Lamp: N/A
Luminaire Lumens: 4704.5 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 59
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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°	1375	1375	1375
5°	1380	1360	1368
10°	1372	1346	1353
15°	1355	1329	1328
20°	1331	1303	1301
25°	1307	1271	1271
30°	1276	1241	1230
35°	1248	1206	1188
40°	1212	1170	1148
45°	1176	1135	1107
50°	1137	1098	1059
55°	1097	1056	1017
60°	1052	1005	968
65°	1004	954	910
70°	943	893	850
75°	858	822	802
80°	762	738	700
85°	621	592	532

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1176 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.0	3.7
10°-20°	489.7	10.4
20°-30°	719.6	15.3
30°-40°	835.8	17.8
40°-50°	834.7	17.7
50°-60°	727.9	15.5
60°-70°	538.1	11.4
70°-80°	304.4	6.5
80°-90°	80.3	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°	1383.3	29.4
0°-40°	2219.1	47.2
0°-60°	3781.7	80.4
0°-90°	4704.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4704.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1849	1849	1849	1849	1849	
5°	1849	1842	1822	1837	1833	176
15°	1760	1750	1726	1734	1725	496
25°	1593	1579	1549	1552	1549	733
35°	1374	1357	1328	1317	1308	858
45°	1118	1106	1079	1060	1053	863
55°	846	836	814	793	784	757
65°	571	560	542	526	517	564
75°	299	295	286	276	279	319
85°	73	71	69	64	62	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1849.0	1849.0	1849.0	1849.0	1849.0
2.5°	1859.8	1850.9	1831.3	1849.0	1845.6
5°	1849.0	1842.0	1822.4	1836.6	1833.2
7.5°	1836.6	1826.0	1806.4	1820.7	1817.2
10°	1817.2	1804.7	1783.3	1797.5	1792.2
12.5°	1790.4	1779.8	1758.5	1767.3	1763.8
15°	1760.1	1749.6	1726.4	1733.6	1724.7
17.5°	1722.8	1712.3	1689.1	1697.9	1689.1
20°	1681.9	1671.4	1646.4	1651.7	1644.7
22.5°	1641.2	1625.1	1601.9	1601.9	1598.3
25°	1593.0	1578.9	1548.7	1552.1	1548.7
27.5°	1539.6	1527.2	1504.2	1498.9	1490.1
30°	1486.5	1472.1	1445.6	1440.3	1433.0
32.5°	1429.5	1418.9	1390.4	1379.7	1372.5
35°	1374.4	1356.7	1328.2	1317.4	1308.5
37.5°	1312.2	1296.1	1267.7	1255.2	1246.3
40°	1248.2	1233.9	1205.4	1189.6	1182.4
42.5°	1185.9	1171.6	1143.3	1125.4	1114.8
45°	1118.5	1105.9	1079.2	1059.8	1052.6
47.5°	1052.6	1040.1	1011.7	992.1	981.4
50°	983.2	974.3	949.4	924.5	915.6
52.5°	915.6	903.2	880.1	860.6	848.2
55°	846.4	835.6	814.3	793.0	784.2
57.5°	777.0	768.2	745.0	723.7	716.4
60°	707.6	700.6	675.7	656.1	650.8
62.5°	640.0	627.6	609.8	592.1	585.0
65°	570.8	560.1	542.4	526.3	517.4
67.5°	499.7	490.6	474.8	462.4	455.2
70°	433.9	426.7	410.7	398.2	391.2
72.5°	366.3	359.2	350.3	337.9	332.6
75°	298.6	295.3	286.1	275.6	279.2
77.5°	238.2	231.1	227.5	222.2	216.9
80°	177.9	176.0	172.4	167.1	163.5
82.5°	120.9	120.9	119.2	112.1	112.1
85°	72.8	71.1	69.4	63.9	62.3
87.5°	32.1	28.5	24.9	19.6	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	12.39	14.00	12.75	14.31	14.63	11.94	13.56	12.31	13.87	14.18
	3H	14.14	15.59	14.52	15.92	16.28	13.65	15.10	14.02	15.43	15.79
	4H	14.79	16.15	15.18	16.50	16.88	14.29	15.66	14.69	16.01	16.38
	6H	15.25	16.52	15.67	16.89	17.28	14.75	16.02	15.16	16.39	16.78
	8H	15.40	16.61	15.82	17.00	17.40	14.89	16.11	15.32	16.49	16.89
	12H	15.49	16.65	15.92	17.03	17.46	14.98	16.14	15.41	16.52	16.95
4H	2H	12.95	14.32	13.35	14.67	15.04	12.60	13.97	13.00	14.31	14.69
	3H	14.92	16.07	15.33	16.47	16.87	14.52	15.66	14.93	16.06	16.46
	4H	15.70	16.74	16.13	17.15	17.59	15.28	16.31	15.71	16.73	17.16
	6H	16.30	17.20	16.75	17.64	18.10	15.87	16.77	16.32	17.21	17.67
	8H	16.49	17.33	16.95	17.78	18.24	16.05	16.90	16.51	17.34	17.80
	12H	16.62	17.38	17.10	17.85	18.32	16.17	16.93	16.65	17.40	17.87
8H	4H	15.97	16.82	16.44	17.26	17.73	15.60	16.45	16.06	16.89	17.35
	6H	16.69	17.39	17.18	17.88	18.36	16.31	17.01	16.80	17.50	17.97
	8H	16.95	17.58	17.46	18.09	18.57	16.56	17.19	17.07	17.69	18.18
	12H	17.15	17.71	17.65	18.20	18.76	16.73	17.29	17.24	17.78	18.34
12H	4H	16.00	16.76	16.48	17.24	17.71	15.64	16.40	16.12	16.87	17.34
	6H	16.73	17.37	17.24	17.87	18.36	16.36	17.00	16.87	17.50	17.99
	8H	17.05	17.61	17.55	18.10	18.66	16.67	17.23	17.18	17.72	18.28