

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: P930307

Luminaire Tested: DFN2DS-HX4F0-060DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930307
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-HX4F0-060DS950-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

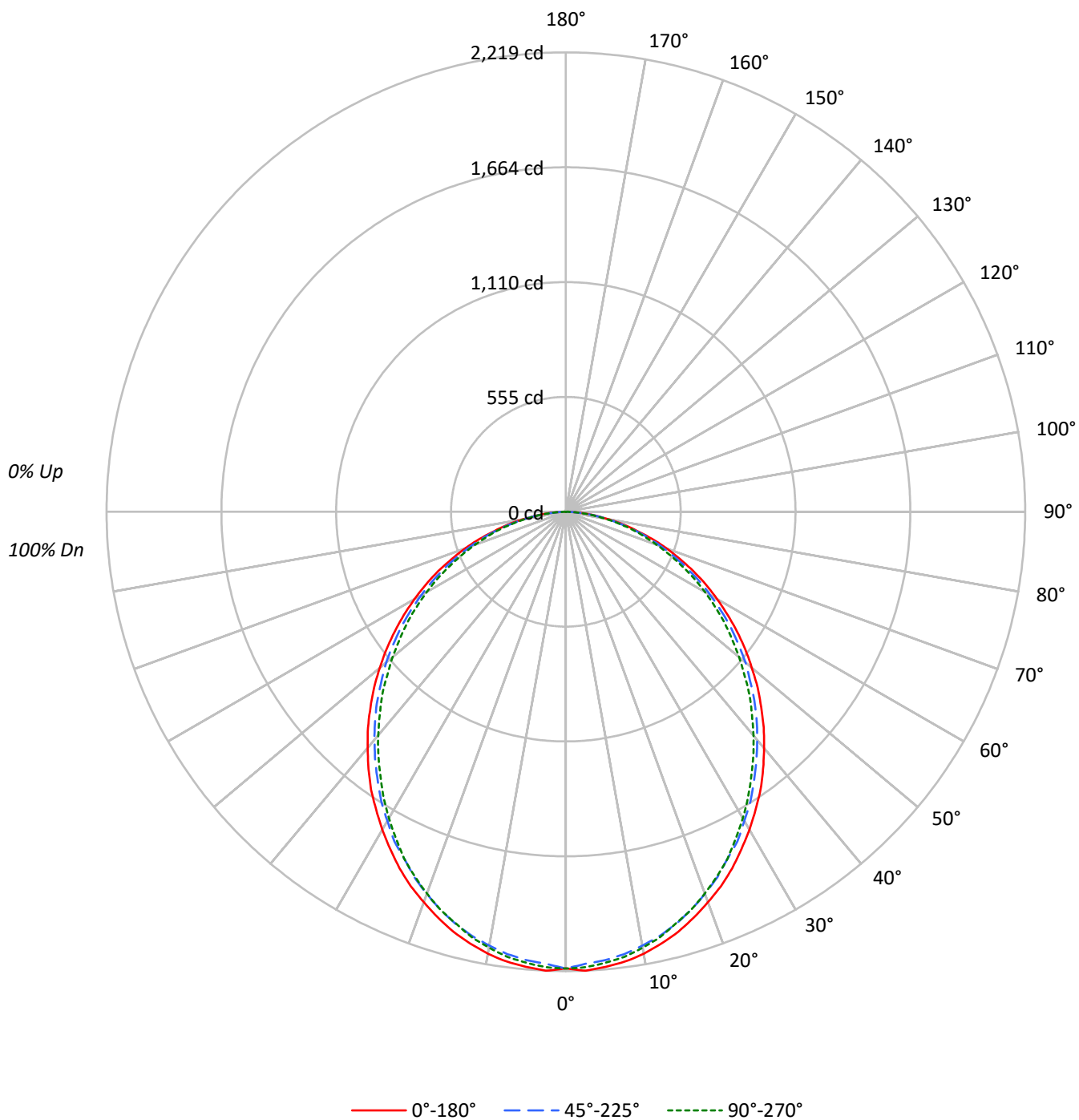
Lumens per Lamp: N/A
Luminaire Lumens: 5613.3 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	1640	1640	1640
5°	1647	1623	1633
10°	1637	1607	1615
15°	1617	1586	1584
20°	1588	1554	1553
25°	1559	1516	1516
30°	1523	1481	1468
35°	1489	1439	1417
40°	1446	1396	1369
45°	1403	1354	1321
50°	1357	1311	1264
55°	1309	1260	1213
60°	1256	1199	1155
65°	1198	1139	1086
70°	1125	1065	1015
75°	1024	981	957
80°	909	881	835
85°	741	706	634

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1403 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.7	3.7
10°-20°	584.3	10.4
20°-30°	858.6	15.3
30°-40°	997.2	17.8
40°-50°	996.0	17.7
50°-60°	868.5	15.5
60°-70°	642.0	11.4
70°-80°	363.2	6.5
80°-90°	95.9	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°	1650.5	29.4
0°-40°	2647.7	47.2
0°-60°	4512.2	80.4
0°-90°	5613.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5613.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2206	2206	2206	2206	2206	
5°	2206	2198	2174	2191	2187	209
15°	2100	2088	2060	2068	2058	592
25°	1901	1884	1848	1852	1848	875
35°	1640	1619	1585	1572	1561	1024
45°	1334	1320	1288	1264	1256	1030
55°	1010	997	972	946	936	903
65°	681	668	647	628	617	673
75°	356	352	341	329	333	380
85°	87	85	83	76	74	102
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2206.2	2206.2	2206.2	2206.2	2206.2
2.5°	2219.0	2208.5	2185.0	2206.2	2202.1
5°	2206.2	2197.9	2174.4	2191.4	2187.3
7.5°	2191.4	2178.8	2155.4	2172.5	2168.2
10°	2168.2	2153.4	2127.9	2144.8	2138.4
12.5°	2136.3	2123.6	2098.2	2108.8	2104.5
15°	2100.2	2087.6	2059.9	2068.5	2057.9
17.5°	2055.7	2043.1	2015.4	2025.9	2015.4
20°	2006.8	1994.2	1964.5	1970.8	1962.5
22.5°	1958.2	1939.0	1911.4	1911.4	1907.1
25°	1900.8	1884.0	1847.9	1851.9	1847.9
27.5°	1837.1	1822.2	1794.7	1788.5	1777.9
30°	1773.7	1756.5	1724.8	1718.5	1709.9
32.5°	1705.6	1693.1	1659.0	1646.2	1637.7
35°	1640.0	1618.8	1584.8	1571.9	1561.3
37.5°	1565.7	1546.5	1512.6	1497.6	1487.1
40°	1489.3	1472.2	1438.3	1419.4	1410.8
42.5°	1415.0	1397.9	1364.2	1342.8	1330.2
45°	1334.5	1319.6	1287.7	1264.5	1255.9
47.5°	1255.9	1241.1	1207.1	1183.7	1171.0
50°	1173.1	1162.5	1132.9	1103.1	1092.5
52.5°	1092.5	1077.7	1050.2	1026.8	1012.0
55°	1009.9	997.1	971.6	946.2	935.6
57.5°	927.1	916.6	888.9	863.4	854.8
60°	844.3	835.9	806.3	782.8	776.5
62.5°	763.7	748.8	727.6	706.5	698.0
65°	681.1	668.3	647.1	628.0	617.4
67.5°	596.2	585.4	566.5	551.7	543.1
70°	517.7	509.2	490.0	475.1	466.8
72.5°	437.1	428.6	418.0	403.1	396.8
75°	356.3	352.3	341.4	328.9	333.1
77.5°	284.3	275.8	271.4	265.2	258.8
80°	212.2	210.0	205.7	199.4	195.1
82.5°	144.3	144.3	142.2	133.7	133.7
85°	86.8	84.9	82.8	76.3	74.3
87.5°	38.3	34.0	29.7	23.4	21.2
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	13.00	14.61	13.37	14.93	15.24	12.56	14.17	12.92	14.48	14.80
	3H	14.75	16.21	15.13	16.53	16.89	14.26	15.72	14.64	16.04	16.40
	4H	15.40	16.77	15.80	17.12	17.49	14.90	16.27	15.30	16.62	17.00
	6H	15.87	17.14	16.28	17.50	17.89	15.37	16.63	15.78	17.00	17.39
	8H	16.01	17.22	16.44	17.61	18.01	15.51	16.72	15.93	17.11	17.51
	12H	16.10	17.26	16.53	17.64	18.07	15.59	16.75	16.02	17.13	17.56
4H	2H	13.56	14.93	13.96	15.28	15.66	13.21	14.58	13.61	14.93	15.30
	3H	15.54	16.68	15.95	17.08	17.48	15.13	16.28	15.54	16.67	17.07
	4H	16.31	17.35	16.75	17.76	18.20	15.89	16.93	16.32	17.34	17.78
	6H	16.91	17.82	17.37	18.26	18.71	16.48	17.38	16.93	17.82	18.28
	8H	17.10	17.95	17.56	18.39	18.86	16.66	17.51	17.12	17.95	18.42
	12H	17.23	17.99	17.71	18.47	18.94	16.78	17.54	17.26	18.02	18.49
8H	4H	16.59	17.43	17.05	17.88	18.34	16.21	17.06	16.67	17.50	17.97
	6H	17.30	18.01	17.80	18.49	18.97	16.92	17.62	17.41	18.11	18.59
	8H	17.56	18.19	18.07	18.70	19.19	17.17	17.80	17.68	18.31	18.79
	12H	17.76	18.32	18.27	18.81	19.37	17.35	17.91	17.85	18.40	18.96
12H	4H	16.61	17.37	17.09	17.85	18.32	16.25	17.01	16.73	17.48	17.95
	6H	17.35	17.98	17.86	18.49	18.97	16.98	17.61	17.49	18.12	18.60
	8H	17.66	18.22	18.17	18.71	19.27	17.28	17.84	17.79	18.33	18.89