

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: P930154

Luminaire Tested: DFN2DS-HX3F0-040DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930154
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-HX3F0-040DS850-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

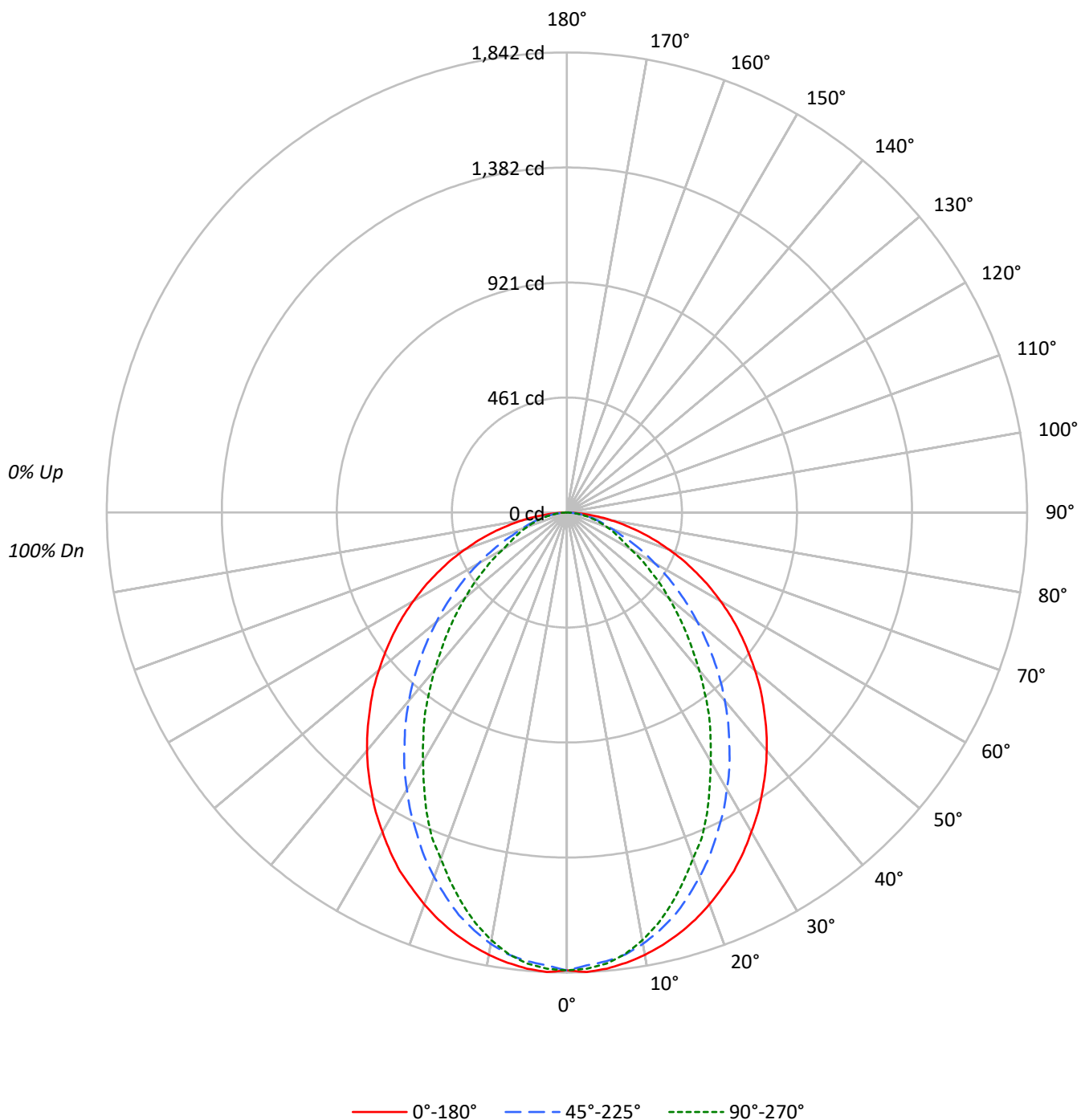
Lumens per Lamp: N/A
Luminaire Lumens: 3770.6 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 38.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	2124	2124	2124
5°	2132	2097	2109
10°	2116	2063	2045
15°	2091	2002	1944
20°	2058	1914	1818
25°	2023	1815	1696
30°	1975	1713	1540
35°	1929	1603	1403
40°	1882	1488	1244
45°	1827	1359	1101
50°	1770	1229	960
55°	1712	1089	824
60°	1645	942	684
65°	1569	791	623
70°	1478	652	573
75°	1366	594	535
80°	1206	530	488
85°	948	419	419

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1827 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	4.6
10°-20°	471.7	12.5
20°-30°	662.3	17.6
30°-40°	721.9	19.1
40°-50°	663.5	17.6
50°-60°	521.1	13.8
60°-70°	339.2	9.0
70°-80°	174.6	4.6
80°-90°	44.6	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°	1305.8	34.6
0°-40°	2027.7	53.8
0°-60°	3212.2	85.2
0°-90°	3770.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3770.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1825	1804	1818	1814	174
15°	1744	1726	1669	1638	1621	491
25°	1583	1530	1420	1352	1327	728
35°	1364	1279	1133	1029	992	854
45°	1115	1004	830	712	672	861
55°	848	718	539	440	408	758
65°	572	438	289	232	227	568
75°	305	189	133	121	120	323
85°	71	36	32	32	32	86
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.4	1833.4	1833.4	1833.4	1833.4
2.5°	1841.7	1833.4	1815.1	1831.8	1828.4
5°	1833.4	1825.1	1803.5	1818.4	1813.5
7.5°	1818.4	1808.6	1785.4	1791.8	1783.6
10°	1798.6	1786.9	1753.8	1748.7	1738.9
12.5°	1773.7	1758.8	1713.8	1704.0	1685.7
15°	1743.8	1725.5	1669.2	1637.7	1621.1
17.5°	1709.0	1682.4	1612.6	1576.2	1549.6
20°	1669.2	1635.9	1552.9	1511.6	1475.0
22.5°	1626.0	1587.9	1491.5	1435.2	1410.4
25°	1582.9	1529.8	1420.2	1352.3	1327.3
27.5°	1531.5	1475.0	1353.9	1275.9	1237.6
30°	1476.7	1413.5	1280.8	1196.3	1151.5
32.5°	1423.6	1347.2	1211.2	1111.7	1070.1
35°	1364.0	1279.2	1133.3	1028.7	992.1
37.5°	1305.8	1214.5	1060.2	945.6	904.3
40°	1244.4	1144.9	983.9	866.1	823.0
42.5°	1181.3	1075.2	907.6	784.7	743.4
45°	1115.0	1003.8	829.6	711.8	671.9
47.5°	1052.0	934.2	755.0	637.1	600.6
50°	982.2	864.5	681.9	567.4	532.7
52.5°	914.1	789.7	612.3	502.7	471.2
55°	847.8	718.4	539.2	439.7	408.2
57.5°	779.8	647.1	474.5	381.6	355.1
60°	710.1	577.3	406.4	321.9	295.4
62.5°	642.2	509.5	348.3	268.8	255.6
65°	572.5	437.9	288.7	232.3	227.2
67.5°	506.1	371.6	232.3	204.1	199.1
70°	436.4	307.0	192.4	175.9	169.1
72.5°	370.1	247.2	160.9	147.7	144.4
75°	305.2	189.1	132.7	121.1	119.6
77.5°	240.7	134.3	104.6	97.9	94.5
80°	180.8	96.3	79.5	73.1	73.1
82.5°	126.1	64.8	54.8	51.3	51.3
85°	71.3	36.5	31.5	31.5	31.5
87.5°	26.6	13.2	13.2	11.6	11.6
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	13.85	15.37	14.22	15.69	16.00	9.81	11.33	10.18	11.65	11.96
	3H	15.62	16.98	15.99	17.31	17.67	11.08	12.44	11.45	12.77	13.13
	4H	16.28	17.56	16.68	17.91	18.29	11.58	12.86	11.98	13.21	13.59
	6H	16.77	17.96	17.18	18.32	18.71	11.96	13.14	12.37	13.51	13.90
	8H	16.94	18.06	17.36	18.45	18.85	12.08	13.21	12.51	13.60	14.00
	12H	17.04	18.12	17.47	18.50	18.93	12.17	13.24	12.60	13.63	14.05
4H	2H	13.96	15.24	14.36	15.58	15.96	10.51	11.79	10.91	12.14	12.51
	3H	15.89	16.95	16.30	17.35	17.75	11.95	13.01	12.36	13.41	13.81
	4H	16.64	17.59	17.07	18.01	18.45	12.55	13.51	12.98	13.92	14.36
	6H	17.23	18.06	17.69	18.50	18.96	13.04	13.87	13.50	14.31	14.77
	8H	17.44	18.22	17.91	18.67	19.13	13.20	13.98	13.66	14.42	14.89
	12H	17.60	18.29	18.08	18.77	19.24	13.32	14.01	13.80	14.49	14.96
8H	4H	16.66	17.44	17.13	17.88	18.35	12.90	13.68	13.37	14.13	14.59
	6H	17.30	17.94	17.80	18.43	18.91	13.49	14.13	13.99	14.62	15.10
	8H	17.55	18.13	18.06	18.64	19.13	13.71	14.29	14.23	14.80	15.29
	12H	17.75	18.26	18.26	18.76	19.32	13.89	14.40	14.40	14.89	15.46
12H	4H	16.65	17.34	17.13	17.82	18.29	12.95	13.64	13.43	14.12	14.59
	6H	17.28	17.86	17.79	18.37	18.86	13.55	14.13	14.07	14.64	15.13
	8H	17.57	18.08	18.08	18.57	19.13	13.83	14.34	14.34	14.83	15.39