

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: P930273

Luminaire Tested: DFN2DS-HX4F0-050DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930273
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-HX4F0-050DS830-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

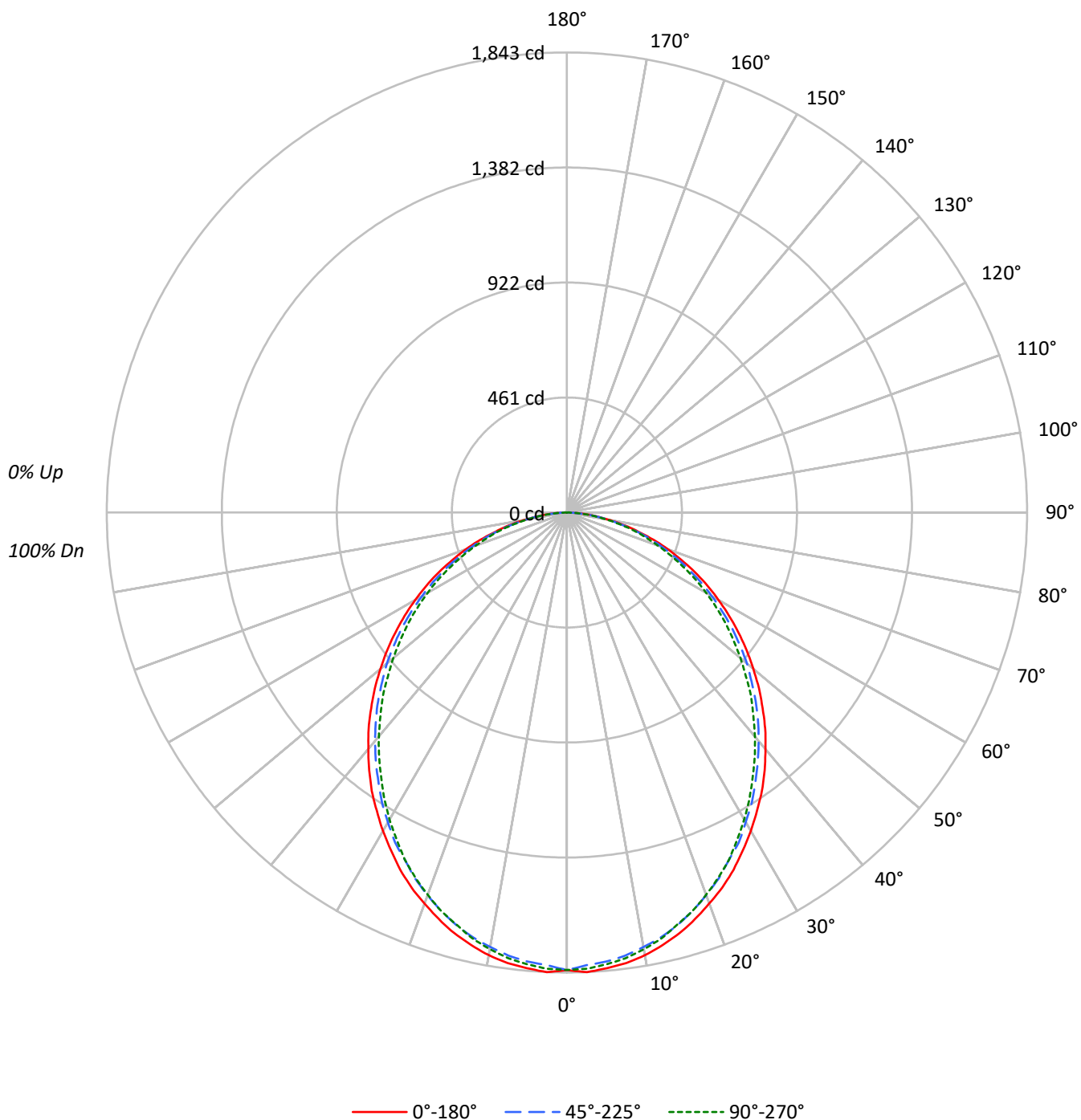
Lumens per Lamp: N/A
Luminaire Lumens: 4662.9 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 48.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
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°	1363	1363	1363
5°	1368	1348	1356
10°	1360	1335	1341
15°	1343	1317	1316
20°	1319	1291	1290
25°	1295	1259	1259
30°	1265	1230	1220
35°	1237	1195	1177
40°	1201	1160	1138
45°	1166	1125	1097
50°	1127	1089	1050
55°	1088	1046	1008
60°	1043	996	959
65°	995	946	902
70°	935	885	843
75°	850	815	795
80°	755	732	694
85°	616	587	526

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1166 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.7
10°-20°	485.3	10.4
20°-30°	713.2	15.3
30°-40°	828.4	17.8
40°-50°	827.4	17.7
50°-60°	721.4	15.5
60°-70°	533.3	11.4
70°-80°	301.7	6.5
80°-90°	79.6	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°	1371.1	29.4
0°-40°	2199.4	47.2
0°-60°	3748.2	80.4
0°-90°	4662.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4662.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1826	1806	1820	1817	174
15°	1745	1734	1711	1718	1709	491
25°	1579	1565	1535	1538	1535	727
35°	1362	1345	1316	1306	1297	851
45°	1108	1096	1070	1050	1043	856
55°	839	828	807	786	777	750
65°	566	555	538	522	513	559
75°	296	293	284	273	277	316
85°	72	70	69	63	62	85
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1832.7	1832.7	1832.7	1832.7	1832.7
2.5°	1843.3	1834.5	1815.1	1832.7	1829.4
5°	1832.7	1825.8	1806.3	1820.3	1817.0
7.5°	1820.3	1809.9	1790.5	1804.7	1801.1
10°	1801.1	1788.8	1767.7	1781.6	1776.4
12.5°	1774.5	1764.1	1743.0	1751.7	1748.2
15°	1744.6	1734.1	1711.1	1718.3	1709.4
17.5°	1707.6	1697.1	1674.1	1682.9	1674.1
20°	1667.1	1656.6	1631.9	1637.1	1630.2
22.5°	1626.6	1610.7	1587.7	1587.7	1584.2
25°	1579.0	1564.9	1535.0	1538.4	1535.0
27.5°	1526.0	1513.7	1490.9	1485.6	1476.9
30°	1473.3	1459.2	1432.8	1427.5	1420.4
32.5°	1416.9	1406.4	1378.1	1367.5	1360.4
35°	1362.2	1344.7	1316.4	1305.8	1297.0
37.5°	1300.5	1284.7	1256.4	1244.1	1235.3
40°	1237.2	1223.0	1194.7	1179.0	1171.9
42.5°	1175.5	1161.3	1133.2	1115.4	1105.0
45°	1108.5	1096.2	1069.6	1050.4	1043.3
47.5°	1043.3	1030.9	1002.8	983.3	972.8
50°	974.5	965.7	941.1	916.4	907.5
52.5°	907.5	895.2	872.4	853.0	840.6
55°	838.9	828.3	807.1	786.0	777.2
57.5°	770.1	761.3	738.3	717.2	710.1
60°	701.3	694.4	669.8	650.3	645.1
62.5°	634.4	622.1	604.5	586.9	579.8
65°	565.8	555.1	537.5	521.7	512.8
67.5°	495.3	486.4	470.6	458.3	451.1
70°	430.0	423.0	407.0	394.7	387.8
72.5°	363.1	356.0	347.2	334.9	329.6
75°	296.0	292.6	283.6	273.2	276.8
77.5°	236.2	229.0	225.5	220.2	215.1
80°	176.3	174.5	170.9	165.7	162.1
82.5°	119.8	119.8	118.1	111.1	111.1
85°	72.2	70.5	68.8	63.4	61.7
87.5°	31.7	28.3	24.7	19.4	17.6
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	12.36	13.97	12.72	14.28	14.60	11.91	13.52	12.28	13.84	14.15
	3H	14.11	15.56	14.48	15.89	16.25	13.62	15.07	13.99	15.40	15.76
	4H	14.75	16.12	15.15	16.47	16.85	14.26	15.63	14.66	15.98	16.35
	6H	15.22	16.49	15.63	16.86	17.25	14.72	15.99	15.13	16.36	16.75
	8H	15.37	16.58	15.79	16.97	17.37	14.86	16.07	15.29	16.46	16.86
	12H	15.46	16.62	15.89	17.00	17.43	14.94	16.10	15.37	16.49	16.92
4H	2H	12.92	14.29	13.32	14.63	15.01	12.57	13.93	12.96	14.28	14.66
	3H	14.89	16.04	15.30	16.44	16.84	14.49	15.63	14.90	16.03	16.43
	4H	15.67	16.71	16.10	17.12	17.56	15.25	16.28	15.68	16.70	17.13
	6H	16.27	17.17	16.72	17.61	18.07	15.83	16.74	16.29	17.18	17.64
	8H	16.46	17.30	16.92	17.74	18.21	16.02	16.86	16.48	17.31	17.77
	12H	16.59	17.35	17.07	17.82	18.29	16.14	16.90	16.62	17.37	17.84
8H	4H	15.94	16.79	16.40	17.23	17.70	15.57	16.42	16.03	16.86	17.32
	6H	16.66	17.36	17.15	17.85	18.32	16.28	16.98	16.77	17.47	17.94
	8H	16.92	17.55	17.43	18.05	18.54	16.53	17.16	17.04	17.66	18.15
	12H	17.12	17.67	17.62	18.16	18.73	16.70	17.26	17.21	17.75	18.31
12H	4H	15.97	16.73	16.45	17.20	17.67	15.60	16.36	16.08	16.84	17.31
	6H	16.70	17.33	17.21	17.84	18.33	16.33	16.97	16.84	17.47	17.96
	8H	17.02	17.57	17.52	18.07	18.63	16.64	17.20	17.15	17.69	18.25