

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: P930152

Luminaire Tested: DFN2DS-HX3F0-040DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930152
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-HX3F0-040DS840-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

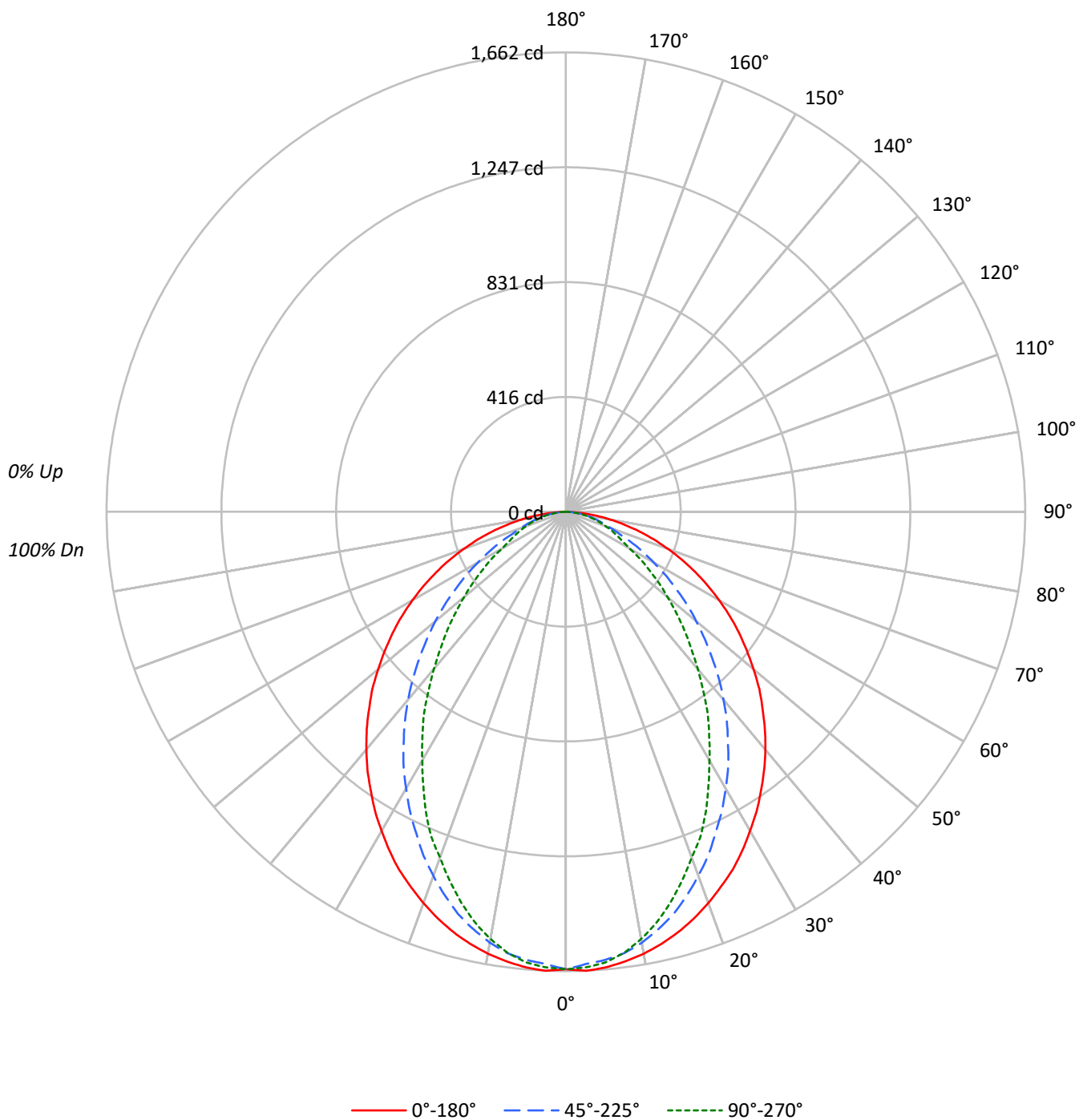
Lumens per Lamp: N/A
Luminaire Lumens: 3403.4 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

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°	1917	1917	1917
5°	1924	1893	1903
10°	1909	1862	1846
15°	1888	1807	1755
20°	1857	1728	1641
25°	1826	1638	1531
30°	1783	1546	1390
35°	1741	1446	1266
40°	1698	1343	1123
45°	1649	1227	994
50°	1598	1109	866
55°	1546	983	744
60°	1485	850	618
65°	1416	714	562
70°	1334	588	517
75°	1233	536	483
80°	1089	479	440
85°	856	377	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1649 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.1	4.6
10°-20°	425.8	12.5
20°-30°	597.8	17.6
30°-40°	651.6	19.1
40°-50°	598.9	17.6
50°-60°	470.3	13.8
60°-70°	306.1	9.0
70°-80°	157.6	4.6
80°-90°	40.2	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°	1178.6	34.6
0°-40°	1830.2	53.8
0°-60°	2899.4	85.2
0°-90°	3403.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3403.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1655	1655	1655	1655	1655	
5°	1655	1647	1628	1641	1637	157
15°	1574	1558	1507	1478	1463	444
25°	1429	1381	1282	1221	1198	657
35°	1231	1155	1023	928	896	771
45°	1006	906	749	642	606	777
55°	765	648	487	397	368	684
65°	517	395	261	210	205	512
75°	276	171	120	109	108	291
85°	64	33	28	28	28	77
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.9	1654.9	1654.9	1654.9	1654.9
2.5°	1662.4	1654.9	1638.3	1653.5	1650.3
5°	1654.9	1647.3	1627.8	1641.3	1636.9
7.5°	1641.3	1632.4	1611.5	1617.3	1609.9
10°	1623.4	1612.9	1583.0	1578.4	1569.6
12.5°	1601.0	1587.5	1546.9	1538.0	1521.5
15°	1574.0	1557.5	1506.6	1478.2	1463.3
17.5°	1542.5	1518.5	1455.6	1422.7	1398.7
20°	1506.6	1476.6	1401.7	1364.4	1331.3
22.5°	1467.7	1433.2	1346.2	1295.4	1273.1
25°	1428.7	1380.8	1281.9	1220.6	1198.0
27.5°	1382.4	1331.3	1222.0	1151.7	1117.1
30°	1332.9	1275.9	1156.1	1079.8	1039.3
32.5°	1285.0	1216.0	1093.3	1003.4	965.9
35°	1231.1	1154.7	1022.9	928.5	895.5
37.5°	1178.7	1096.2	957.0	853.6	816.2
40°	1123.2	1033.4	888.1	781.8	742.8
42.5°	1066.3	970.5	819.2	708.3	671.0
45°	1006.4	906.0	748.8	642.4	606.5
47.5°	949.5	843.2	681.5	575.1	542.1
50°	886.6	780.3	615.5	512.1	480.8
52.5°	825.1	712.8	552.7	453.8	425.3
55°	765.3	648.4	486.7	396.9	368.5
57.5°	703.9	584.1	428.3	344.4	320.5
60°	640.9	521.1	366.9	290.6	266.7
62.5°	579.7	459.9	314.4	242.6	230.7
65°	516.7	395.3	260.6	209.7	205.1
67.5°	456.9	335.4	209.7	184.2	179.7
70°	393.9	277.1	173.7	158.8	152.7
72.5°	334.0	223.1	145.2	133.3	130.3
75°	275.5	170.7	119.8	109.3	107.9
77.5°	217.2	121.2	94.4	88.4	85.3
80°	163.2	86.9	71.8	66.0	66.0
82.5°	113.8	58.5	49.4	46.3	46.3
85°	64.4	32.9	28.4	28.4	28.4
87.5°	24.0	11.9	11.9	10.5	10.5
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	13.50	15.02	13.86	15.33	15.65	9.45	10.98	9.82	11.29	11.60
	3H	15.26	16.63	15.64	16.95	17.32	10.72	12.09	11.10	12.41	12.78
	4H	15.93	17.21	16.33	17.56	17.94	11.22	12.50	11.62	12.85	13.23
	6H	16.42	17.60	16.83	17.97	18.36	11.60	12.79	12.02	13.15	13.55
	8H	16.58	17.71	17.01	18.10	18.50	11.73	12.85	12.15	13.24	13.65
	12H	16.68	17.76	17.12	18.15	18.57	11.81	12.89	12.24	13.27	13.70
4H	2H	13.60	14.88	14.00	15.23	15.61	10.15	11.43	10.55	11.78	12.16
	3H	15.53	16.60	15.94	17.00	17.40	11.59	12.66	12.01	13.06	13.46
	4H	16.28	17.24	16.72	17.65	18.09	12.19	13.15	12.63	13.57	14.00
	6H	16.87	17.71	17.33	18.15	18.61	12.68	13.51	13.14	13.96	14.42
	8H	17.09	17.87	17.55	18.31	18.78	12.84	13.62	13.31	14.07	14.53
	12H	17.24	17.94	17.72	18.42	18.89	12.96	13.66	13.44	14.13	14.60
8H	4H	16.31	17.08	16.77	17.53	18.00	12.55	13.33	13.01	13.77	14.24
	6H	16.94	17.59	17.44	18.08	18.56	13.14	13.78	13.63	14.27	14.75
	8H	17.19	17.77	17.71	18.28	18.77	13.36	13.93	13.87	14.44	14.93
	12H	17.40	17.91	17.91	18.40	18.97	13.53	14.04	14.04	14.54	15.10
12H	4H	16.29	16.99	16.77	17.46	17.94	12.59	13.29	13.07	13.76	14.24
	6H	16.92	17.50	17.44	18.01	18.50	13.20	13.78	13.71	14.29	14.77
	8H	17.21	17.72	17.72	18.21	18.78	13.47	13.98	13.98	14.47	15.04