

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: P930258

Luminaire Tested: DFN2DS-HX4F0-040DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930258
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-HX4F0-040DS835-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

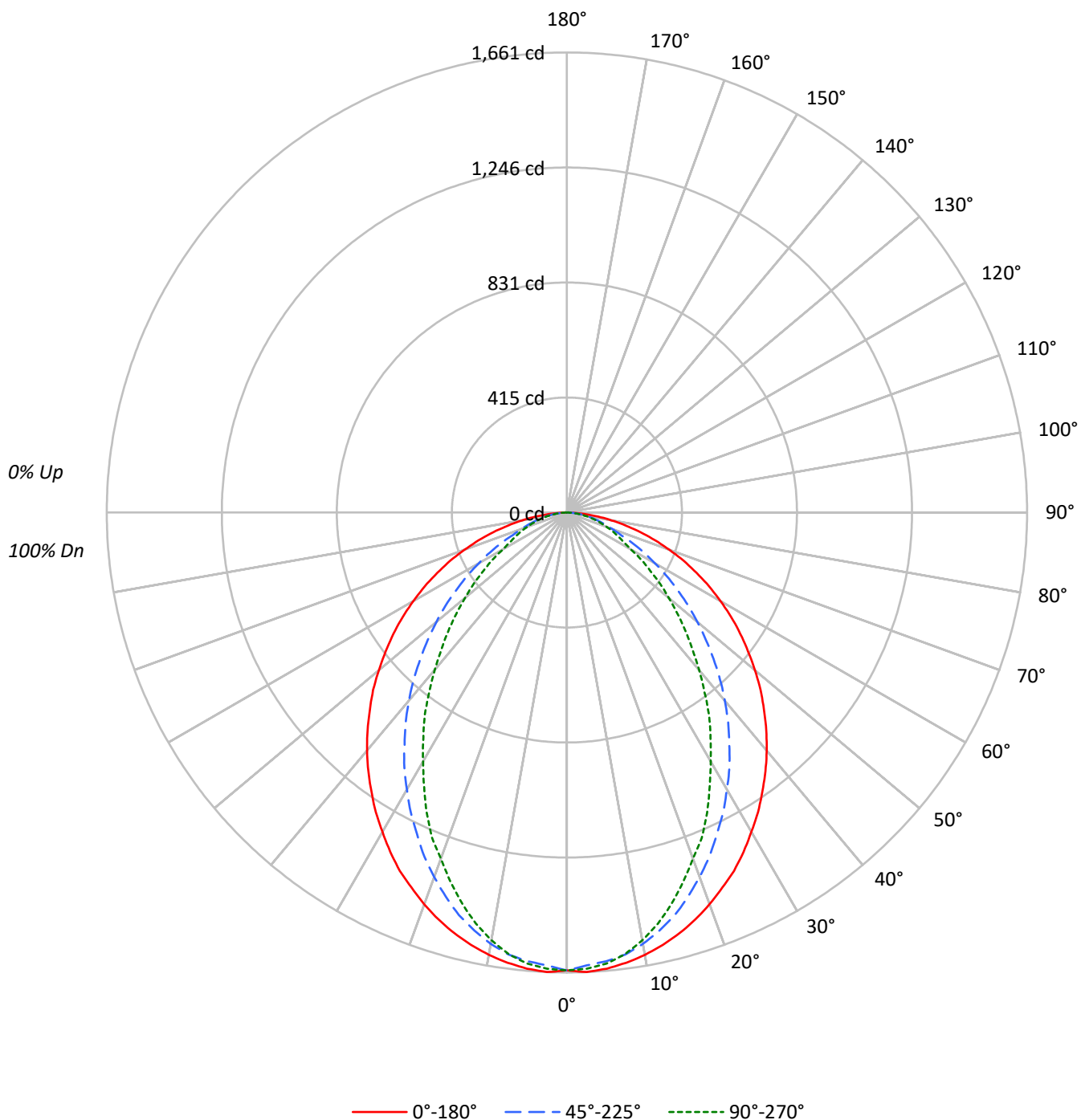
Lumens per Lamp: N/A
Luminaire Lumens: 3400.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
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	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°	1229	1229	1229
5°	1234	1214	1221
10°	1225	1194	1184
15°	1210	1159	1125
20°	1191	1108	1052
25°	1171	1051	982
30°	1143	992	891
35°	1116	928	812
40°	1089	861	720
45°	1057	787	637
50°	1025	711	556
55°	991	630	477
60°	952	545	396
65°	908	458	361
70°	855	377	332
75°	791	344	310
80°	698	307	282
85°	549	242	242

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1057 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.9	4.6
10°-20°	425.3	12.5
20°-30°	597.2	17.6
30°-40°	650.9	19.1
40°-50°	598.3	17.6
50°-60°	469.9	13.8
60°-70°	305.8	9.0
70°-80°	157.4	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°	1177.4	34.6
0°-40°	1828.4	53.8
0°-60°	2896.5	85.2
0°-90°	3400.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3400.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1653	1653	1653	1653	1653	
5°	1653	1646	1626	1640	1635	157
15°	1572	1556	1505	1477	1462	443
25°	1427	1379	1281	1219	1197	656
35°	1230	1154	1022	928	895	770
45°	1005	905	748	642	606	776
55°	764	648	486	396	368	683
65°	516	395	260	210	205	512
75°	275	170	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°	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1660.7	1653.2	1636.7	1651.8	1648.7
5°	1653.2	1645.7	1626.2	1639.7	1635.3
7.5°	1639.7	1630.8	1609.9	1615.7	1608.3
10°	1621.8	1611.3	1581.4	1576.8	1568.0
12.5°	1599.4	1585.9	1545.4	1536.5	1520.0
15°	1572.4	1555.9	1505.1	1476.7	1461.8
17.5°	1541.0	1517.0	1454.1	1421.3	1397.3
20°	1505.1	1475.1	1400.3	1363.0	1330.0
22.5°	1466.2	1431.8	1344.9	1294.1	1271.8
25°	1427.3	1379.4	1280.6	1219.4	1196.8
27.5°	1381.0	1330.0	1220.8	1150.5	1116.0
30°	1331.6	1274.6	1154.9	1078.7	1038.3
32.5°	1283.7	1214.8	1092.2	1002.4	964.9
35°	1229.9	1153.5	1021.9	927.6	894.6
37.5°	1177.5	1095.1	956.0	852.7	815.4
40°	1122.1	1032.4	887.2	781.0	742.1
42.5°	1065.2	969.5	818.4	707.6	670.3
45°	1005.4	905.1	748.1	641.8	605.9
47.5°	948.6	842.4	680.8	574.5	541.6
50°	885.7	779.5	614.9	511.6	480.3
52.5°	824.3	712.1	552.1	453.3	424.9
55°	764.5	647.8	486.2	396.5	368.1
57.5°	703.2	583.5	427.9	344.1	320.2
60°	640.3	520.6	366.5	290.3	266.4
62.5°	579.1	459.4	314.1	242.4	230.5
65°	516.2	394.9	260.3	209.5	204.9
67.5°	456.4	335.1	209.5	184.0	179.5
70°	393.5	276.8	173.5	158.6	152.5
72.5°	333.7	222.9	145.1	133.2	130.2
75°	275.2	170.5	119.7	109.2	107.8
77.5°	217.0	121.1	94.3	88.3	85.2
80°	163.0	86.8	71.7	65.9	65.9
82.5°	113.7	58.4	49.4	46.3	46.3
85°	64.3	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	11.95	13.47	12.32	13.79	14.10	7.91	9.43	8.28	9.75	10.06
	3H	13.72	15.08	14.10	15.41	15.77	9.18	10.54	9.56	10.87	11.23
	4H	14.38	15.66	14.78	16.01	16.39	9.68	10.96	10.08	11.31	11.69
	6H	14.87	16.06	15.28	16.42	16.81	10.06	11.24	10.47	11.61	12.00
	8H	15.04	16.16	15.46	16.55	16.95	10.18	11.31	10.61	11.70	12.10
	12H	15.14	16.22	15.57	16.60	17.03	10.27	11.34	10.70	11.73	12.16
4H	2H	12.06	13.34	12.46	13.69	14.06	8.61	9.89	9.01	10.24	10.62
	3H	13.99	15.05	14.40	15.45	15.85	10.05	11.11	10.46	11.51	11.91
	4H	14.74	15.70	15.17	16.11	16.55	10.65	11.61	11.08	12.02	12.46
	6H	15.33	16.16	15.79	16.60	17.06	11.14	11.97	11.60	12.41	12.87
	8H	15.54	16.32	16.01	16.77	17.23	11.30	12.08	11.76	12.52	12.99
	12H	15.70	16.39	16.18	16.87	17.34	11.42	12.11	11.90	12.59	13.06
8H	4H	14.76	15.54	15.23	15.98	16.45	11.00	11.78	11.47	12.23	12.69
	6H	15.40	16.04	15.90	16.53	17.01	11.59	12.23	12.09	12.72	13.20
	8H	15.65	16.23	16.16	16.74	17.23	11.81	12.39	12.33	12.90	13.39
	12H	15.85	16.36	16.36	16.86	17.42	11.99	12.50	12.50	12.99	13.56
12H	4H	14.75	15.44	15.23	15.92	16.39	11.05	11.74	11.53	12.22	12.69
	6H	15.38	15.96	15.89	16.47	16.96	11.65	12.23	12.17	12.74	13.23
	8H	15.67	16.18	16.18	16.67	17.23	11.93	12.44	12.44	12.93	13.49