

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: P904389

Luminaire Tested: DFN2DIP-TR3F0-040D030US830-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904389
REPORT IS A COMBINATION OF REPORTS P901794 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D030US830-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

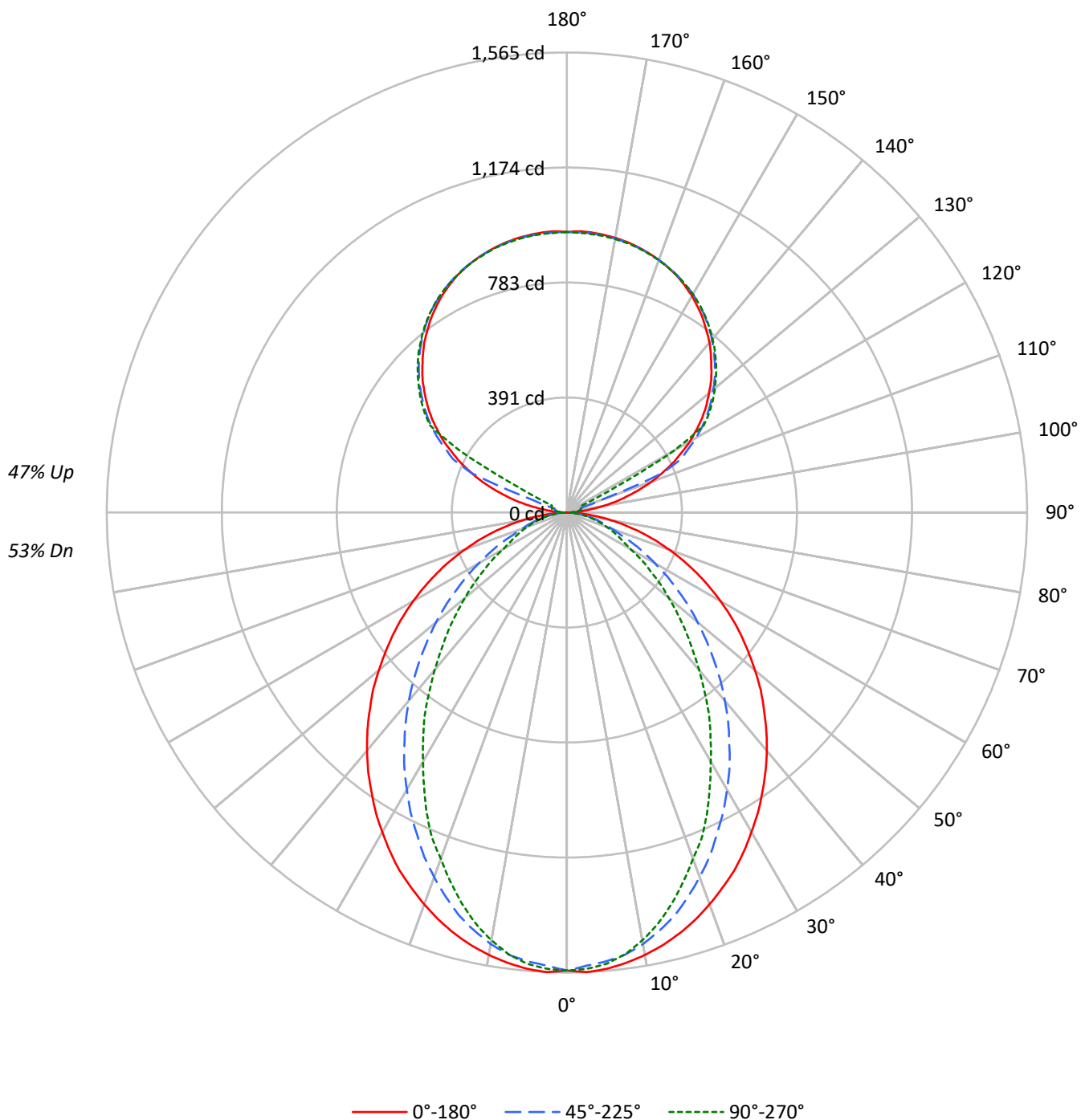
Lumens per Lamp: N/A
Luminaire Lumens: 6004.0 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 57.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	30	10
RCR																	
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51
2	91	83	78	73	84	78	73	68	67	63	60	57	54	52	47	45	44
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38
4	76	66	58	52	70	61	55	49	53	48	44	45	42	38	38	35	33
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	28	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23
8	56	44	36	31	52	41	34	29	36	31	27	31	27	24	27	24	21
9	52	40	33	28	48	38	31	26	33	28	24	29	25	22	25	22	19
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1942	1942	1942
5°	1944	1909	1922
10°	1923	1870	1858
15°	1896	1807	1760
20°	1860	1720	1641
25°	1823	1623	1525
30°	1774	1524	1379
35°	1725	1417	1251
40°	1676	1307	1104
45°	1619	1185	971
50°	1559	1063	841
55°	1498	931	716
60°	1426	794	589
65°	1343	655	528
70°	1243	526	476
75°	1117	460	430
80°	934	381	369
85°	636	247	270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1619 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.0	2.4
10°-20°	400.9	6.7
20°-30°	562.8	9.4
30°-40°	613.5	10.2
40°-50°	563.9	9.4
50°-60°	442.9	7.4
60°-70°	288.3	4.8
70°-80°	148.4	2.5
80°-90°	39.6	0.7
90°-100°	31.5	0.5
100°-110°	117.3	2.0
110°-120°	311.1	5.2
120°-130°	516.0	8.6
130°-140°	548.1	9.1
140°-150°	509.4	8.5
150°-160°	409.6	6.8
160°-170°	263.9	4.4
170°-180°	90.8	1.5
0°-30°	1109.8	18.5
0°-40°	1723.3	28.7
0°-60°	2730.1	45.5
0°-90°	3206.3	53.4
90°-120°	459.9	7.7
90°-150°	2033.4	33.9
90°-180°	2798.0	46.6
0°-180°	6004.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1558	1558	1558	1558	1558	
5°	1558	1551	1533	1546	1541	148
15°	1482	1466	1419	1392	1378	418
25°	1345	1300	1207	1149	1128	619
35°	1159	1087	963	874	843	726
45°	948	853	705	605	571	732
55°	721	611	458	374	347	644
65°	486	372	245	198	193	482
75°	259	161	113	103	102	274
85°	61	31	27	27	27	70
90°	1	8	14	17	19	6
95°	45	22	27	30	30	53
105°	210	231	42	50	52	224
115°	397	409	426	106	57	391
125°	561	570	584	588	590	501
135°	695	706	712	719	718	537
145°	806	805	817	822	818	504
155°	887	881	889	894	888	409
165°	935	931	933	938	933	264
175°	956	952	953	958	951	91
180°	954	954	954	954	954	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1558.2	1558.2	1558.2	1558.2	1558.2
2.5°	1565.3	1558.2	1542.7	1556.9	1554.0
5°	1558.2	1551.1	1532.8	1545.5	1541.3
7.5°	1545.5	1537.1	1517.4	1522.9	1515.9
10°	1528.6	1518.7	1490.5	1486.2	1477.9
12.5°	1507.5	1494.8	1456.6	1448.2	1432.7
15°	1482.1	1466.5	1418.6	1391.9	1377.8
17.5°	1452.5	1429.8	1370.6	1339.6	1317.0
20°	1418.6	1390.3	1319.8	1284.7	1253.6
22.5°	1382.0	1349.5	1267.6	1219.7	1198.7
25°	1345.3	1300.1	1207.0	1149.3	1128.0
27.5°	1301.7	1253.6	1150.7	1084.4	1051.9
30°	1255.1	1201.4	1088.5	1016.7	978.6
32.5°	1209.9	1145.0	1029.4	944.8	909.5
35°	1159.2	1087.2	963.2	874.3	843.2
37.5°	1109.8	1032.2	901.1	803.7	768.5
40°	1057.6	973.1	836.2	736.1	699.5
42.5°	1004.0	913.8	771.4	666.9	631.8
45°	947.6	853.1	705.1	604.9	571.1
47.5°	894.1	794.0	641.7	541.5	510.5
50°	834.8	734.7	579.6	482.2	452.7
52.5°	776.9	671.2	520.4	427.3	400.5
55°	720.6	610.6	458.3	373.7	346.9
57.5°	662.8	550.0	403.3	324.3	301.8
60°	603.5	490.7	345.4	273.6	251.1
62.5°	545.8	433.0	296.1	228.5	217.3
65°	486.5	372.2	245.3	197.5	193.1
67.5°	430.2	315.8	197.5	173.4	169.2
70°	370.9	260.9	163.5	149.5	143.7
72.5°	314.5	210.1	136.8	125.5	122.7
75°	259.4	160.7	112.8	102.9	101.6
77.5°	204.5	114.1	88.9	83.2	80.3
80°	153.6	81.8	67.6	62.1	62.1
82.5°	107.2	55.0	46.6	43.6	43.6
85°	60.6	31.0	26.8	26.8	26.8
87.5°	22.6	11.2	11.2	9.9	9.9
90°	0.7	8.3	13.8	17.3	18.6
92.5°	17.3	14.5	16.6	18.0	18.6
95°	44.9	22.1	26.9	30.4	29.7
97.5°	80.8	24.2	35.2	37.3	38.0
100°	122.2	27.6	39.4	44.9	46.3
102.5°	167.8	166.5	40.7	48.3	50.4
105°	209.9	230.6	42.1	49.7	52.5
107.5°	258.9	276.2	43.5	51.1	53.9
110°	305.9	320.4	120.8	51.8	54.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	350.2	362.5	350.8	53.2	55.2
115°	397.0	408.8	426.0	106.3	56.6
117.5°	437.8	451.6	463.4	364.6	183.7
120°	483.3	493.7	506.1	514.4	421.2
122.5°	522.0	533.1	547.0	551.0	551.8
125°	561.4	570.3	583.5	588.3	590.4
127.5°	597.3	606.9	617.4	624.2	624.9
130°	631.1	642.2	649.8	657.3	656.8
132.5°	665.6	674.7	682.2	688.4	687.8
135°	694.7	705.8	711.9	718.9	717.5
137.5°	725.0	733.3	740.3	747.2	745.1
140°	754.7	760.3	767.8	774.0	770.6
142.5°	779.7	784.5	793.4	798.9	795.5
145°	805.9	805.1	816.9	821.7	818.2
147.5°	828.6	826.5	838.3	841.7	839.0
150°	850.7	845.9	857.0	861.0	857.6
152.5°	869.3	863.8	874.2	878.4	873.5
155°	887.3	881.2	889.4	893.5	888.1
157.5°	901.8	896.4	902.6	907.4	901.8
160°	914.3	910.1	914.3	918.4	913.5
162.5°	925.3	921.1	924.6	929.4	923.2
165°	934.9	930.9	932.9	937.7	932.9
167.5°	942.5	938.4	940.5	945.4	939.1
170°	948.8	944.6	946.0	950.8	944.6
172.5°	952.9	948.8	950.2	955.0	948.8
175°	956.3	951.5	952.9	957.7	950.8
177.5°	957.7	952.9	953.7	958.5	952.3
180°	954.3	954.3	954.3	954.3	954.3

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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	9.71	10.57	10.65	11.52	12.74	5.69	6.55	6.62	7.49	8.72
	3H	11.38	12.15	12.33	13.11	14.36	6.87	7.64	7.82	8.60	9.85
	4H	11.99	12.71	12.95	13.67	14.93	7.32	8.05	8.28	9.01	10.27
	6H	12.40	13.07	13.37	14.04	15.31	7.64	8.31	8.61	9.27	10.54
	8H	12.53	13.16	13.50	14.14	15.41	7.73	8.36	8.71	9.35	10.61
	12H	12.58	13.19	13.57	14.16	15.46	7.77	8.37	8.75	9.35	10.64
4H	2H	9.73	10.46	10.70	11.42	12.68	6.28	7.01	7.25	7.97	9.23
	3H	11.56	12.16	12.53	13.15	14.42	7.63	8.23	8.60	9.22	10.49
	4H	12.24	12.79	13.23	13.78	15.07	8.17	8.72	9.16	9.71	11.00
	6H	12.75	13.22	13.75	14.23	15.52	8.59	9.06	9.58	10.07	11.36
	8H	12.92	13.36	13.92	14.36	15.67	8.71	9.16	9.71	10.16	11.46
	12H	13.01	13.41	14.03	14.43	15.74	8.78	9.18	9.79	10.19	11.50
8H	4H	12.21	12.65	13.21	13.65	14.96	8.45	8.89	9.45	9.89	11.20
	6H	12.77	13.13	13.79	14.17	15.48	8.96	9.33	9.98	10.37	11.67
	8H	12.98	13.30	14.01	14.33	15.65	9.15	9.47	10.18	10.50	11.82
	12H	13.11	13.39	14.14	14.42	15.79	9.26	9.55	10.30	10.57	11.94
12H	4H	12.16	12.56	13.18	13.58	14.89	8.46	8.85	9.47	9.87	11.18
	6H	12.74	13.06	13.77	14.09	15.42	9.01	9.33	10.04	10.36	11.68
	8H	12.96	13.24	13.99	14.26	15.63	9.21	9.50	10.25	10.52	11.89

END OF REPORT